



The World Book Encyclopedia



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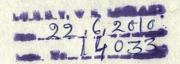
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The World Book Encyclopedia (International)

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About this volume

This volume consists of three basic parts:

An instructional section, A Student Guide to Better Writing, Speaking, and Research Skills

A comprehensive index to World Book

A page-by-page list of picture credits

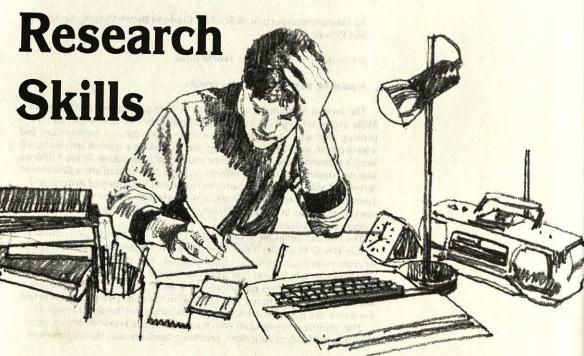
The section A Student Guide to Better Writing, Speaking, and Research Skills begins on page 2. It includes practical advice on such topics as improving your writing skills and preparing a short report, a book review, and a term paper; preparing, rehearsing, and delivering a speech; and using a library's resources and tapping other sources of information. Related information on conducting research follows on page 26. Included are: a Glossary of terms and abbreviations encountered in research; a listing of general and specific Selected reference books; and information on two systems for arranging materials in a library—Dewey Decimal Classification and Library of Congress Classification.

The index includes more than 100,000 entries that direct you to information in *World Book*. The index, together with *World Book*'s extensive system of cross-references, its single alphabetical arrangement, and its other ease-of-use features, helps you find what you want to know quickly and easily. For general instructions on how to find a fact or an article in *World Book*, see the section "How to use *World Book*" in Volume A. To learn how to use the index, see page 39 of this volume. The index itself begins on page 41.

This volume was prepared with the advice of the World Book Advisory Board, other leading educators, practising teachers, and skilled librarians.

A Student Guide to Better

Writing, Speaking, and



Do you panic when faced with a writing assignment? Are you nervous about getting up to speak before a group? Do you sometimes find it difficult to find the right research materials? You're not alone. Many students have the same problems. That's why we developed this section—to help you improve your skills in these important areas.

A Student Guide to Better Writing, Speaking, and Research Skills begins with an explanation of what "communicating" means. Next come the three main parts. Part one, A Guide to Writing Skills, includes practical tips to help you become a better writer. It explains how to prepare written work such as a report or essay. It takes you through the various stages from making an outline to reading the first draft to check such points as content and spelling. It also gives advice on preparing footnotes, a bibliography, and front matter (contents), and suggests the best way to set out the finished version.

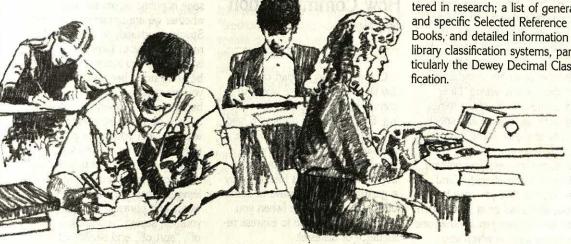


Part two, A Guide to Speaking Skills, covers the six basic steps in preparing a speech. It also provides useful information on the different kinds of speeches and easy-to-follow tips on rehearsing and delivering a speech. The section concludes with helpful hints on the effective use of audio-visual aids.

A Guide to Research Skills, part three, helps you use a library's resources fully. It includes detailed information about catalogue systems and on such specialized indexes as The Readers' Guide to Periodical Literature. It tells how to evaluate reference sources and how to prepare bibliography cards

and take notes. The section provides guidance for tapping sources of information outside of the library, such as conducting an interview or using television as a source.

A Student Guide to Better Writing, Speaking, and Research Skills concludes with a Glossary of terms and abbreviations often encountered in research; a list of general and specific Selected Reference Books, and detailed information on library classification systems, particularly the Dewey Decimal Classification.



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Communicating

Communicating is something you do all the time. How well you communicate depends on your writing, speaking, and research skills. The better these skills are, the more effectively you will communicate. This introduction describes communication in speech and writing. Later guides suggest some of the things you need to do to write and speak well. They also give some tips on how to do research.

The guides will help you prepare the different kinds of written and spoken reports that you may have to make, at school or at work. Such reports will become just another one of the many ways in which you communicate. At school, at college, or at work you will need to prepare different kinds of written and spoken reports. You may have to write an essay, a project paper, or a thesislength dissertation. You may have to speak at a meeting, or make a spoken report to a teacher, fellowstudents, or colleagues. You will want to communicate effectively.

How Communication Works

Communicating is part of every-day life. Mostly you use words to communicate: by speaking or writing. But sometimes nothing is said or written, because you convey a message nonverbally (without words). You can do this by an action (when you hug a friend), or by a gesture (when you wave to someone), or by a grimace (when you wrinkle up your nose to express reluctance or distaste).

Why people communicate. People have a purpose when they communicate. Sometimes the purpose can be quite vague—as when you are chatting to friends, for example. Often, you do not have anything particular to tell them. In this case, your purpose in communicating is more social than informative. At other times, however, the purpose

can be quite specific. You might want to express exactly what you think or feel about something.

At school, you have to prepare many different kinds of reports. These reports can be written or presented *orally* (spoken). Whether written or spoken, they are important forms of communication. In them, you attempt to show what you think, as well as how much you have learned. They also reveal how well you can present your ideas.

The tone you use in communicating can vary, from the intensely personal to the highly impersonal. The style you use to express yourself can vary, too, from casual and informal to deliberate and formal. It all depends on what you want to communicate (the message) and those to whom you want to communicate it (the audience). The more formal kinds of communication are more difficult than informal kinds, but they involve skills that can be learned.

Public or private? How we communicate depends on our audience. It also depends on whether the message is public or private, and whether we are speaking or writing. Speaking privately to friends or to members of your family, your tone is intimate. You know that you will be understood because the person you are talking to shares the same background of experience as you. So you need not worry about whether what you say is grammatically correct. Nor do you worry about how precisely you have said what you mean. You may use slang, leave sentences incomplete, repeat words and phrases, and interrupt yourself, saying "you know", "kind of", "sort of", and similar expressions. You may wave your hands, and use other body language for emphasis, or because you cannot quickly think of the right words.

In private conversation, everyone behaves in this way quite naturally. But people do not write in such a way. Nor could you speak as informally and intimately to a group, or if you were addressing a stranger.

Conversation. Conversations are highly interactive. The people to whom you are speaking respond constantly to what you are saying. They nod agreement, for example. or interrupt to comment. Consequently, though your style of talking is informal, you are communicating effectively; you are clearly being understood. A stranger listening to an intimate, friendly conversation, however, would frequently be in the dark about what was being said.

If you wished to include a stranger in your conversation, you would adopt a less intimate tone than the one you use when speaking to your friends. For a stranger's benefit, you would try to fill in some of the "background" that you normally take for granted. You need to collect your thoughts in an orderly way, and to speak correctly to be sure of being understood. Although to some extent your tone is still personal, your style is now more formal.

Tone and style when talking. We adjust our tone and style when we talk to different people. Usually we are not aware of how easily we do this. We make such adjustments automatically and frequently.

Think of telling a joke privately to a close friend. Your tone is different to the one you use when answering a question in class. Or imagine that you are trying to explain your views on something to a much older person at a family gathering when everyone suddenly stops talking to listen! In each of these cases, the way you speak will be different. The tone you use will vary from the personal to the less personal. Your style of speaking will also vary, from being casual and easy-going to more formal and self-conscious. How you speak may even change in mid-flow as you become aware that other people are listening!

Giving a talk. The most formal kind of spoken communication is a public speech. A public address is intended to produce a special effect on an audience. Often the purpose of a speech is to persuade the audi-

ence to your point of view. Think of a lawyer in a court of law, or a politician in parliament, or a debating team in a school competition! Making an oral presentation in class is similar. You have to organize and present ideas in an orderly and convincing manner. A good oral presentation is usually carefully structured. Of course, its overall effect depends not only on what is said but on the way it is said. This is called "delivery." Good delivery is a matter of clarity in speaking and of timing. It is also a matter of how the voice. and physical gestures, are used to give variety and emphasis.

Writing and talking. Written communication is usually more formal in style than spoken communication, because the message must be got across in words alone. Effective writing requires knowledge of grammar and the ability to use words skilfully. Even when very personal in tone, as in a letter to a friend, a written message cannot make use of any of the nonverbal aspects of communication that are naturally part of speech. Nor can it take advantage of the immediate "feedback" available when we are speaking. Writing has to be complete in itself. As a result, it is more difficult than speaking.

Some people think that writing and speaking are quite different. They are not. Often, good writing has the ease and naturalness of speech. When it becomes difficult for you to write down your ideas, it can help to say out loud what it is

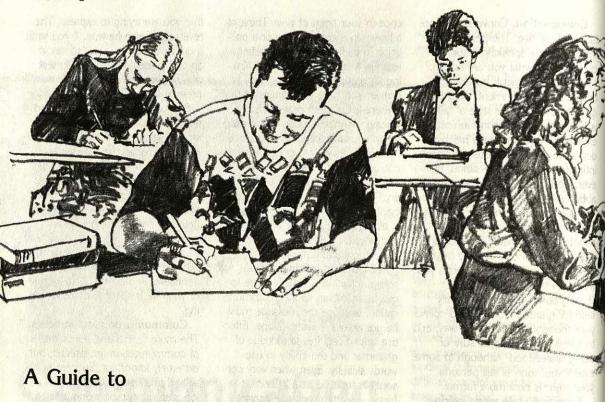
that you are trying to express. The reverse can also be true. If you write a draft of what you want to say in an oral presentation, you can test whether your ideas are clearly expressed and well-organized.

Sometimes people "freeze", and become tense and anxious at the idea of writing a report. Others have a similar reaction to the idea of speaking in public. These are normal reactions when we have to do something that is not familiar and ordinary. But remember when this happens that the formal kinds of communication are basically similar to other kinds of communicationwith which you are experienced and confident. Remember, a major part of your life is spent in communicat-

Communication and success.

The more formal and public forms of communication are difficult, but extremely important. Success at school and college, and later in a job, can depend on being able to communicate effectively. Fortunately, good writing and speaking depend on skills that everyone can learn. Like all skills, communication skills improve with practice. Moreover, learning and using them can be fun. Think of your pleasure and sense of achievement when, after a lot of practice, you give a good performance on a musical instrument or when, having trained hard, you perform well at a sporting event. Believe it or not, making a speech or presenting a written report can be just as satisfying!

"Success . . . can depend on being able to communicate effectively."



Writing Skills

Most of the writing that we do has to meet various requirements. This is as true in the business world as in school. In school, unlike the business world, these requirements are usually clearly stated. If you do not meet them you will be penalized. The first thing any good writer must do is to analyse these requirements.

Before You Start

Before you begin to write an essay, a project paper, or a report of any kind, ask yourself these questions. Make sure that you know the answers before you even think of putting pen to paper, or sitting at the typewriter or word-processor.

What is the topic? Sometimes this is quite straightforward. There is no choice. You are asked to write

on only one topic or subject. Even so, examine the topic closely to see exactly what is wanted. Sometimes, however, you will be given a choice from a list of subjects. On other occasions you will be given the option of writing on anything you like. If you have a choice, choose a topic that interests you and about which you know something already. This gives you a good starting point.

How long? The length of a report may be given in numbers of words or in numbers of pages. If you write too much or too little, usually no one will mind, but you should aim for the target.

The length is important, because how much you have to write will influence how you approach your subject. You will have to select the points you want to make and the amount of discussion that you can include according to the amount of

space available. While it is possible to write on "The History of the Universe" in 2, 10, or 25 pages, the results would be very different. The shortest account, for example, would be the most general. It would touch briefly on a few main points. Short reports on large and general topics are usually hard to write. A short report needs a specific topic—for instance, "Life aboard the space shuttle" would be simpler than "The U.S. space programme".

What kind of a report? A personal report expresses your own opinions or feelings about a social problem, such as homeless children, or about something important to you, such as a hobby or an experience you have had. In this kind of report your own views are what is important. The tone of your report will be personal.

An expository report presents in-



formation in a more objective, impersonal way. You might be asked to summarize a book you have read, for example. Or you might be asked to analyse a process, like the circulation of the blood, or explain an historical event, like the murder of Julius Caesar. In the personal report it would be fine to begin "My holiday was so awful I couldn't wait to come back to school," It would not be appropriate, though, to begin the more formal report: "I was so upset when Brutus stabbed Julius." Your own feelings and opinions are not relevant here. Rather, you might begin: "To explain why Brutus, supposedly Julius Caesar's friend, joined in the plot to murder Caesar, we have first to understand the diverging political views of the two men."

A critical report is a mixture of personal and the expository. You present the information you have

found about a subject, but you also analyse what the information means from a particular point of view. You express your own opinions. Suppose you have to write a report on the impact of nuclear power stations on the environment. You would have to decide for yourself what the evidence about this issue really means.

Presenting your ideas. By knowing clearly what kind of report is required, you can judge the tone that is most appropriate. You can also decide on the best way to present your ideas. You might present them:

- as an argument for a position (nuclear power stations are not an environmental hazard, despite the evidence to the contrary);
- **2.** as a narrative of events (the story of Julius Caesar);
- **3.** as an exposition of the facts about something (daily life aboard the space shuttle).

When is the report due? Planning, and finding information, take time. You will need time for writing one or more drafts, for revising the drafts, and for writing or typing the final copy in the format required. An important rule here is: plan ahead! If you do not plan ahead, you may have to rush to finish your report. The report might not be as well written or as well-presented as you could have made it if you had given yourself more time.

Presentation of the work.

There may be special requirements for presenting your paper.

- 1. Does it have to be typed?
- 2. Do you have to refer to your sources of information? If so, how must you do this? Do you have to provide footnotes and a bibliography?

- **3.** Is there a special format for footnotes and the bibliography?
- 4. Does the paper require a separate title page or cover sheet? What information needs to be on this page?

Getting started. After you have chosen your topic, and checked what kind of report has to be presented, how long the report has to be and when it is due, the next step is to get started. Sometimes this can be difficult, especially if you do not know much about the topic. Here are some suggestions:

- 1. Talk to your friends and parents. They will have comments and suggestions that will give you ideas. Talking through your own ideas with others will also help.
- 2. Look up the topic in World Book. Encyclopedias are a good place to start finding out. Check the index to find articles related to the topic. As you read, jot down the main points. These will help you organize your thinking about the topic, and will suggest additional information you will need.
- 3. Do some further background reading in the library. Check the catalogue or browse the shelves of your local library. The books that you find will suggest aspects of the subject that you will want to explore further.
- 4. Think up questions that you would like answered. This will help guide your search for information. The questions will keep your research on track. You will not lose time by becoming side-tracked.

Asking questions. How to ask questions depends in part on what your topic is about. Is it about:

- 8 Writing Skills
- an object or process (such as container ships or the circulation of the blood)?
- 2. an abstract concept (such as religious freedom or intelligence)?
- **3.** an *event* (such as the murder of Julius Caesar)?
- **4.** a general *proposition* (such as that nuclear power stations pose a threat to the environment)?

Often your topic will be complex, and will involve several or even all of the above! Analysing it in this way, however, will help you determine a general approach. As a guide, we suggest four kinds of approach: descriptive, analytical, chronological, and polemical.

- A simple descriptive approach might be enough for an object.
- An analytical approach to an abstract concept systematically examines it from various points of view.
- **3.** A *chronological* approach concentrates on the sequence of events over time.
- 4. A polemical approach (an aggressively argumentative approach) would be appropriate if you have to try to prove or disprove a proposition, or are adopting a position that you must defend.

To treat some subjects adequately, you will have to adopt a combination of approaches. For ex-

"Avoid

aimless reading . . .

... read with

a purpose!"

ample, you might need to describe a place or object. You might then have to chronicle events that involved either the place or the object. These events might illustrate a concept which you would proceed to analyse. Finally, you might want to argue in a polemical way for a particular position on this concept, and against those who oppose it.

What kind of questions? You will want to know what an object's structure is and how it was produced. It might be interesting to know how it is like, and how it differs from, similar objects. You might want to know what it is used for, where, and who uses it.

You might want to know how a concept has been defined and how definitions have varied from time to time or place to place. You might also want to know why the concept is important, what other concepts it is related to, and how it affects people.

You will want to know why an event happened, what led up to it, what actually took place, when, and where, who was involved, what its consequences were, and what other events it was related to.

You will want to know what the various parts of the proposition mean, and what the implications are if the proposition is true or if false. You will want to find out what kinds

of arguments have been put forward to support or deny it, what groups or interested parties have used these arguments, and why.

Question-words. The words, who, what, how, where, when, and why are very useful. They are called interrogative pronouns ("who" and "what") or interrogative adverbs ("how", "when", "where", and "why"). Fire these useful questionwords at aspects of a topic that you don't know much about, and you can soon begin to make something of it.

Suppose you have to discuss the murder of Julius Caesar. Who was Julius Caesar? Why was he important? What did he do? Who was involved in his murder? What was the situation before the murder? What actually happened? What did the various people involved do, for example? How did they do it? What was the sequence of events? Where did these events take place and when? Why did these people act as they did? What were the consequences of their actions? How do we know all of this? Why is it considered to be important? What explanations have been offered for what happened, and by whom? How plausible are these explanations?

Suppose that you have to decide whether nuclear power stations pose

a threat to the environment. You can ask questions about the stations themselves. What are they? Why were they set up, where, when, and by whom? How many of them are there? How do they work? How much electricity do they generate? What do they cost to run? How are they similar to and different from conventional power stations? Then you can ask questions about the possible threats they pose. What kinds of threat? Whom or what do they threaten? When are they a threat and how? Who says so, whu do they say so, and how do they know?

If you begin your research with questions of this kind, you will be looking for specific information to answer the questions. Looking for specific information will help you to avoid aimless reading around a subject. This wastes time. It can also become demoralizing because the subject will seem to get bigger as you begin to accumulate lots of unorganized bits of information. The rule here is: read with a purpose! Of course your reading will itself prompt lots of questions. It will also help you to decide which ideas are worth following up.

Preliminary outline. When you analyse your subject and work out a basic approach to it, write down in outline form the main points or topics that you want to discuss in your paper. The questions given above can help you to draw up these points. Instead of noting them in point form, you could set them down as questions.

As you learn more about your subject, you will add to or modify this outline. Have a sense of direction in your research, and gradually build up a picture of how you would like your paper to be structured. The preliminary outline should be simple. You will almost certainly change it as you explore your topic in greater depth.

Researching the topic. You need to find interesting and accurate information to answer the questions that you have posed about your topic. Researching the topic involves finding sources that will tell you what you want to know.

Sometimes the encyclopedia articles you used may refer you to other sources by providing a bibliography. This is a list of books and articles on the subject. The library catalogue at your school, college, or public library will tell you what books the library has. In the library you can also check indexes to periodicals, such as The Reader's Guide to Periodical Literature, and indexes to newspapers. In addition to books and periodicals, most libraries have records, films, maps, and videos. They also maintain files of pamphlets, newspaper clippings and other ephemera (short-lived) materials. Depending on the topic you are researching, you may find some or all of these different sources useful.

You may find that you have to locate other sources for the particular information you need. Maybe the best information for your purposes will come from an interview, or a survey, or from a government publication that you have requested by mail. Valuable information may turn up in surprising places. The notes on a record cover or in a CD (compact disc) could contain interesting details about the history of rock music or about the careers of the artists.

As you find and begin to check various sources, you should prepare a working bibliography. This is a

list of sources you want to examine for more information about your subject. Your working bibliography will grow as one source leads to another.

For each source you locate book, article, pamphlet, record, tape, video, and so on-prepare a bibliography card. Follow the instructions given on page 34 for doing this. These cards will be easy to organize and alphabetize when you prepare your final bibliography. If a source does not provide useable information, draw a line through the card for that item. But keep the card so that you will have a record of every source that you have checked on your research.

Taking notes. As you read, take notes of the information that seems relevant. Taking notes serves two major functions. First, it helps you to remember the important points in what you have read. Second, it allows you to quote accurately from your sources and to identify them precisely. Most people take notes on index cards, though you may prefer to use a pad or notebook. Cards are easier to arrange and re-arrange when you begin the actual writing of your paper.

See "A Guide to Research Skills" on page 29 for more detailed information on how to use the library, and on how to get information from other sources. The Guide also gives specific instructions on how to take good notes.

A problem you will have to face is to decide when to stop doing research—because you have enough information. Regularly reviewing your notes, and keeping your outline up to date will help you make this decision. You do not want more information than you can handle.

Writing Clearly and Logically

All good writing has a logical structure. It is organized so that it conducts the reader by a convincing arrangement of ideas, from the beginning through the middle to the end. The ideas should flow naturally and logically, one to another. If they do, the reader can follow "the argument" easily.

How can you achieve this effect? A start is to have a detailed outline of the major ideas you will discuss. The outline keeps clear in your mind how the paper is to be structured. It will also make sure you do not forget any of the major points you wish to make.

The outline that you have been developing as you have carried out your research may be enough to guide your writing. Sometimes, however, this preliminary outline needs to be reworked in greater detail. You may need to reorganize it to give you a clearer picture of how the ideas and information in the paper will be arranged. The outline is a detailed table of contents, just like those in books.

In preparing the final outline, review all your notes. Arrange them in logical order, and group them into the major sections of the paper. Under these main topics you should list the sub-topics related to them.

Sometimes you may be required to submit an outline with your

paper. Even if this is not so, draw one up for yourself before you begin to write. Make sure that the headings and sub-headings are set out in a clear and consistent way. Our example (see box, right) is of an outline for a paper on "Classroom use of computers to improve writing skills".

A well-structured paper has a beginning, a middle, and an end. This may seem obvious, but can easily be forgotten. A good paper will have an introduction, a main section or "body", and a conclusion.

The introduction gives some of the background to your subject, and states what your paper is about. The statement of what your paper is about is your *thesis*. It presents the main point that you want to make in the paper. If the topic has been given to you as a question, the thesis statement will indicate what your answer will be.

Usually in the introduction you will also give some indication of the approach you will take to develop your "argument". The introduction will indicate that you will:

- 1. Describe or present information or evidence about something.
- Analyse its importance or significance.
- 3. Argue that certain conclusions follow.

"A well-structured paper has a beginning, a middle, and an end."

1. Introduction

- A. Widespread availability of computers
- B. Wide range of general applications
- C. Various uses in education
- D. Thesis: Computers could improve writing skills, but their use in schools is held back by serious problems
- 2. Possible uses in the classroom for writing
 - A. Grammar drill and practice
 - B. Spelling drill
 - C. Word processing
- 3. Benefits to students
 - A. Individual instruction
 - B. Immediate feedback
 - C. Student interest and motivation
- 4. Problems
 - A. Cost of hardware
 - B. Availability of appropriate software
 - C. Space
 - D. Teacher resistance
- 5. Conclusion

Thus, the introduction tells the reader what to expect in the rest of the paper.

The body of the paper sets out the points that you wish to make. You also present the supporting facts, the details, the examples, the evidence that you have found. This will be the longest section of your paper. It is very important that each paragraph in the body of your paper contains a separate, major idea. Each paragraph must also be clearly and logically related to the previous paragraph. If this is so, the reader can easily understand the flow of ideas.

A major problem here is to decide on the amount of information or the level of detail that is needed. If you have too much, the reader can lose the point of what you are saying. When this happens, the information presented hasn't been "digested" properly. If you do not have enough information, the paper will not be convincing.

The conclusion briefly recapitulates (restates) the main points of your paper. You present your conclusions. As well as looking back to what you have said in the body of the paper, you may also look forward to what might flow from the conclusions you have drawn. They will have important implications. What are they?

The conclusion is a kind of summing up. Make sure that what you of the paper. Your conclusion must follow from the evidence and arguments you have presented.

Tips for good writing

You have analysed your subject and decided the approach you will adopt to it. You have collected enough information to answer the various questions you have posed about it. However, once you are writing, you may have to find more information to support a crucial point. You have drawn up a detailed outline that shows the order and relationship of the ideas, and information that you want to present.

It is time at last to uncap your pen, or scroll paper into the typewriter, or switch on the word processor and begin.

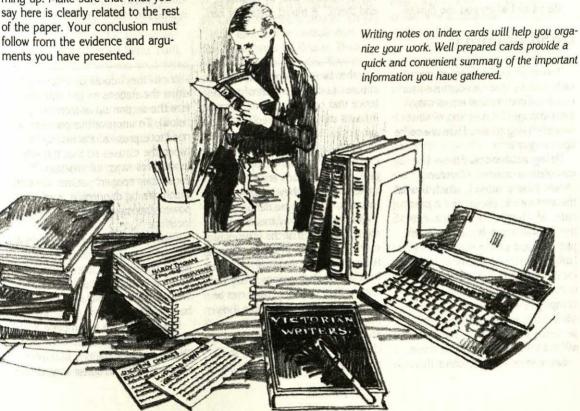
Good writing is grammatically accurate. It is simple, logical, and direct. It always reflects the personality of the writer. It captures and holds the interest of the reader because of what is said and how it is said.

In good writing the right words are chosen. These words are put together to form complete sentences. In their turn these sentences are arranged into coherent paragraphs.

Finally, paragraphs are linked together so that the paper becomes a logical and persuasive whole. Its content seems to flow naturally from idea to idea, from beginning to end.

Always be yourself. Don't use words or expressions that do not sound right. This doesn't mean that you should not experiment with new words, or ways of expressing yourself. You will make mistakes sometimes. Mistakes don't matter-if you learn from them. But avoid using words and phrases that seem more impressive than those you would normally use, especially if you are not quite sure of their exact meaning. Saying out loud what you have written can help you decide if it is natural and flows easily.

Learn from experts. You can learn a lot from great books. Read the best kinds of writing in fiction and nonfiction, and your own writing will improve. But don't try consciously to imitate or copy.



Be simple. Don't use "roundabout" phrases when a simple word will do. For example,

At the present time simply means today or now until such time as means until despite the fact that means although

in the vicinity of means near or around

due to the fact that means because first and foremost means first members of the female sex are women

to have a need for something is to need it

to give encouragement is simply to encourage.

Don't use *clichés*. These are figures of speech that are so overworked they no longer have a distinctive meaning. Detecting them takes a special effort. Here are some examples:

fit as a fiddle means fit costs the earth means expensive busy as a bee means busy like a bull in a china shop means clumsy or awkward or even insensitive.

Be careful when you use figures

of speech. Such phrases should be colourful, apt, and consistent. We use figures of speech when we express something in terms of something else or use words in such a way that they take on a special meaning.

There are a great many different kinds of figures of speech. Among the most common are comparisons using the words "like" or "as". "The building was like a great ship anchored in a sea of wheat". "His laughter was as raucous as a kookaburra's." These explicit comparisons are called similes.

When the comparison is *implicit*, and is not introduced by "like" or "as", the resulting figure of speech is called a *metaphor*. For example, "the newcomer was a lamb among wolves"—meaning he or she was innocent, or helpless, among stronger and perhaps dangerous companions. A famous example of an inconsistent, or mixed, metaphor is in one of the speeches in Shakespeare's play, *Hamlet*. Hamlet wonders about taking "arms against a sea of troubles and, by opposing, end them." A mixed metaphor can,

unintentionally, be funny when the reader realizes what has actually been said.

Don't use *slang* in a written paper. Slang is used quite naturally in speech, especially in informal situations. It is generally not appropriate in a written paper.

Don't use the passive voice, unless there seems to be a good reason to do so. Take the sentence: "The belief was held by Brutus that the Roman republic was about to be betrayed by Julius Caesar". Here the passive voice robs the sentence of immediacy. It is simpler and more direct to write: "Brutus believed that Caesar was about to betray the Roman republic".

Use simple but strong words, especially verbs. Suppose the sentence above began: "Brutus was concerned that . . ." or even, "Brutus thought that . . ." The verbs "was concerned" and "thought" do not tell the reader nearly as much as "suspected" or "believed" or "was convinced". Was Caesar done to death (a cliché and to be avoided), killed (weak), murdered (better), or stabbed to death (more vivid)?

Good grammar

If what you write is not grammatically correct, you can confuse your readers. Grammatical errors may even change the meaning of what you are trying to say. Here are some tips on grammar.

Using sentences. Always use complete sentences. A sentence should have a *subject*, which is what the sentence is about, and a *predicate*, which tells the reader something about the subject. For example: "Nuclear power stations (subject) are usually built in remote locations (predicate). If the sentence is complete, you have presented a complete thought which the reader will be able to understand. If the sentence is incomplete, the reader will not be sure of what you mean.

Sometimes writers incorrectly run

together two or more independent clauses (a clause is part of a sentence that can stand alone because it has a subject and predicate, like a sentence). It is equally incorrect to separate such clauses with a comma. Here is an example, "Nuclear power stations are built in remote locations, they contain nuclear reactors, they can be dangerous."

Simply indicate by means of full stops (periods) that the clauses are complete, and can function as sentences. "Nuclear power stations are built in remote locations. They contain nuclear reactors. They can be dangerous." In this example, however, the separate short sentences are awkward. They are also not clear. The first "they" seems to be referring to "locations," while the

second "they" could be referring to either the stations or the reactors (see the section on antecedents, below). To improve this passage, we need to express a relationship between the clauses so that the sentence gives more information. "Because they contain nuclear reactors, which can be dangerous, nuclear power stations are built in remote locations."

Test. If two or more independent clauses are run together, or are linked by commas, ask yourself if a full stop or period should be placed between them or if the ideas should be reworked into a single sentence.

Fragments are incomplete, because something has been left out. "Nuclear power stations in remote locations." The simplest way to cor-

rect this is to make the phrase into a complete sentence: "Nuclear power stations are built in remote locations." But if the phrase as a whole is treated as the subject, a different predicate might tell the reader much more. "Nuclear power stations in remote locations do not present a hazard to towns or cities."

Test. Ask yourself if the passage could form a complete sentence more or less as it stands or should

be added to.

Agreement. A subject and a verb must agree in person (1st-I or we, 2nd-you, and 3rd-he, she, it or they); and in number (singular or plural):

Number: The power station is nearby (singular); the power stations

are nearby (plural).

Person: I am careful (1st person singular): You are careful (2nd person singular); He, she, it is careful (3rd person singular); We are careful (1st person plural); You are careful (2nd person plural); They are careful (3rd person plural).

It is sometimes hard to decide whether something is singular or plural. Note that either, neither, each, nobody, anybody, someone, no one, and none are treated as singular. On the other hand, both, few, many, and several are treated as plural. "Neither of the power stations were built recently" is wrong because "neither" is singular. "Both of the power stations were built recently" is correct because "both" is

plural.

If the subject is separated from the verb, errors of agreement can easily arise. "The report on the dangers and uncertainties of nuclear power stations were ignored" is wrong. The report, which is singular, was ignored. If two singular nouns are joined by and they take a plural verb. This is obvious with simple nouns. "The minister and his adviser support nuclear energy." More complex subjects can be tricky. "The claim of the local government association, which received much press coverage, and the report of the gov-

ernment's chief scientist, which he submitted privately to the minister, are not contradictory".

Test. Ask yourself who or what is the subject of the verb, and if the subject is singular or plural.

Pronouns stand for a noun. A pronoun must agree with its noun in gender, number, and person. Its antecedent (that is, the noun it stands for) must also be clear. "While each of the other conspirators turned his back on him. Brutus regarded Caesar steadily. He seemed unafraid." This is partly correct. Each is singular. The conspirators (e.g. Brutus) were male, so each is turning his back. But what about the him and he? On whom are they turning their backs? On Brutus or Caesar? Who is unafraid? Is it Brutus or Caesar?

Here we have the problem of an unclear antecedent. When there is doubt about who or what is being referred to, the trick is to repeat the appropriate noun rather than using a pronoun. Two meanings are possible. (1) "While each of the other conspirators turned his back on Caesar, Brutus regarded him steadily. Caesar seemed unafraid." Or (2) "While each of the conspirators turned his back on Brutus, Brutus regarded Caesar steadily. Brutus seemed unafraid". Make sure your sentence means what you want it to mean.

Test. Ask yourself who or what a pronoun refers to. If in doubt, repeat the noun.

Modifiers. Words or phrases that modify other words or phrases must do so clearly. Beware the "dangling" modifier! "Hitching up his toga, the crowd waited silently for Brutus to speak." The crowd did not hitch up Brutus's toga! This could be corrected to: "As Brutus hitched up his toga, the crowd waited silently for him to speak." Another version might be: "Hitching up his toga, Brutus turned to speak to the silent crowd."

Test. Ask yourself if the noun following the verb in these "dangling"

constructions is the subject of the action.

Beware the misplaced modifier. This is a phrase or clause that is placed too far away from the word it is intended to modify. As a result it seems to modify another word incorrectly: "Brutus held up Caesar's cloak to the crowd all covered in blood." The cloak, not the crowd. was covered in blood! You could correct this by moving the modifier: "Brutus held up Caesar's cloak, covered in blood, to the crowd." An alternative is: "Brutus held up Caesar's blood-stained cloak to the crowd."

A special kind of misplaced modifier is the "squinting" modifier. This is an adverb that is placed between two verbs, each of which it could modify. "The crowd not accustomed to hearing such orations often interrupted with angry shouts." This could mean that the crowd did not hear such orations often, or that they interrupted often. Well-placed commas correct this, or the modifier can be moved: "The crowd, not accustomed to hearing such speeches often, interrupted . . . " Or, "the crowd, not accustomed to hearing such speeches, often interrupted ... " Another version might be: "the crowd was not accustomed to hearing such speeches and interrupted often with angry shouts."

Test. Ask yourself: to which verb does the modifier actually apply?

Tenses. Generally you should use one verb tense throughout your paper. If your paper describes past events, you will probably want to use the past tense. For present-day subjects you will use the present tense. Be consistent.

Paragraphs. A good paragraph contains a topic sentence. This tells what the paragraph is about. All the other sentences in the paragraph are connected in some clear way to the topic sentence. This sentence usually appears at the beginning of the paragraph, but sometimes it occurs at the end or even in the middle. The topic sentence of this paragraph appears at the beginning of the paragraph.

Coherence. A paragraph usually consists of two or more sentences. The sentences should follow each other in such a way that the paragraph is coherent. If you keep antecedents clear from sentence to sentence, then the paragraph will be coherent. Use the antecedent test to check your sentence is clearly constructed.

Careful control of antecedents will help reveal the introduction into a paragraph of new ideas that do not belong to that paragraph. It will also show up any shifts of focus in the paragraph. Such shifts occur when a paragraph that seems to be about one thing suddenly appears to be dealing with something with no obvious link.

Paragraph links. Just as you must link sentences in a paragraph, so must you link paragraphs to each other. The first kind of link is that of ideas and logic. Paragraphs must be linked logically according to the ideas they present. This kind of linkage reflects the outline that guides the development of your "argu-

Paragraphs must also contain verbal links. Verbal links alert the reader to the unfolding structure of the paper. Without such links, the reader can get "lost", and will not understand why a paragraph is there. These verbal links are of two main kinds.

First, there are discursive links. The author introduces a paragraph by referring to what has just been presented, and indicating what is going to happen next. For example, "One should not give too much weight to these limited economic arguments for nuclear power (previously discussed) because they do not deal with long term environmental issues to which we turn next." The link makes clear that "environmental issues" will be the subject of the paragraph.

These discursive links are often used to mark major stages of development in a paper. They often set the pattern for a series of paragraphs. They also indicate that a previous pattern is to be changed. They are particularly important when writing longer papers in which you have to try to establish a case for something, or explore a fairly complex issue.

The second kind of verbal link is provided by a linking word or phrase. Such words or phrases mark the transition from one paragraph to the next. Some examples

are: however, on the other hand. therefore, in spite of. You can also establish a sequence of paragraphs by numbers: first, second, third, and so on.

If you follow these tips, your readers will enjoy what you write. They will be able to follow your ideas easilv, because you will express yourself simply and vividly. Your paper will be tightly organized and well structured. It will flow effortlessly, because you are in clear command of your material

Editing and Revising

Easy reading is hard writing! You will need to turn out a number of drafts before you produce the best results. Two drafts are necessary. and a third is usually desirable. As you write your first draft, concentrate on putting your ideas down in a clear and orderly fashion.

After you've completed your first draft, put the paper aside for a time. Depending on how good your planning has been, and how well you have been able to keep to a schedule, you may be able to forget your paper for several days. You will then be able to look at it with a fresh. critical eve.

Read what you have written carefully, keeping in mind who your readers are and why you are writing the paper. As you read, ask yourself these questions about content.

grammatical correctness, and stule.

Read for content. Does the introduction clearly state what the paper is about and provide a context for what you want to say? Does the main part of the paper provide all the information that is needed to make your case? Are there other arguments that you need to include? Are there other examples that would help make your points clearer and more persuasive? Is the order of the main ideas logical? Are there gaps of reasoning, or in the information you have presented? Does the paper read naturally and easily, or is it stilted and awkward in places? Reading it aloud will make such lapses easy to detect.

Does the conclusion follow from the main body of the paper? Have you recapitulated the paper's main

"Read what you have written carefully . . . Read for content. grammatical correctness, and style." ideas adequately so that someone reading the conclusion alone would have a good idea of what the paper was about?

Does each paragraph have a topic sentence? Is each element of the paragraph clearly related to the topic sentence?

Does each paragraph deal with an important separate idea, and does each paragraph follow the one before it logically?

Grammatical correctness. Are your sentences complete, with no fragments or run-on clauses and sentences? Is subject-verb agreement correct? Are all antecedent references for pronouns correct? Are all modifiers in the right place—no

danglers or squinters? Is the right punctuation in the right place? Are there commas separating words and phrases . . . full stops or periods showing where each sentence ends . . . question marks at the end of questions . . . quotation marks setting off material quoted direct from your sources?

Read for style. Is the tone of your writing appropriate? It must not be too informal or formal for the subject you are writing about and for your readers.

Have you said what you mean? Examine very closely the words that you have written. Do you mean what you have said, especially if you have used a figure of speech? Make sure

figures of speech are appropriate and consistent.

Have you used any clichés? Why settle for a vague general word when a more vivid and precise one would be better?

Does the paper ramble in places? Could a phrase or sentence be cut out because it is repetitive or imprecise?

Have you provided enough discursive links? Will your reader easily understand the different stages in which your ideas are presented? Have you used enough linking words so that individual paragraphs flow easily one from another? Do they follow each other in the right order?

Spelling. Careless spelling mistakes can spoil good writing.

(1) Use a dictionary to check the spelling of any word that you are not sure of. (2) Be careful of doubling consonants when making an adjective into an adverb (strictstrictly, careful-carefully, accidentaccidentally). (3) Also beware of "ible" and "able" words (edible, contemptible, irresistible, noticeable, indispensable). (4) Don't forget the rule, "i before e except after c": for example, "receive" and "siege". This rule has a number of common exceptions such as "weird" and "foreign"). Watch out for them! (5) Keep a dictionary handy and use it.

If you are using a word processor which has a program to check spelling, make sure that the word processor's built-in dictionary is British English (or American English), whichever is appropriate for you.

Watch out for words that are spelled correctly, but are wrong in the context ("there" or "their," and "weigh" or "way," for example).

Quotations. If you use a quotation, be sure to copy it exactly, and enclose it in quotation marks. If the passage is more than five lines long, present it as a block that is indented and single-spaced. If you omit part of the quotation, use an ellipsis (. . .) in place of the part left out. To make a quotation fit into your text

Choosing a topic that excites your imagination is a good way to start. You will approach the subject with enthusiasm and produce an interesting piece of writing.





A word processor is a useful tool for quick writing and editing. It allows you to correct, revise, and reorganize your text and, when you are satisfied, print the finished product.

easily, or to make its meaning clear, you will need sometimes to add some words of your own. These should be enclosed in square brackets []. You should introduce each quotation by giving the name of the author or by making another form of reference: for example, it has been claimed that "... (followed by the quotation). You must provide a footnote to identify the exact source of the quotations you use.

Footnotes. The main purpose of footnotes is to document sources. This means that you give credit to the authors on whose ideas you draw. Your reader can check the accuracy and relevance of quotations or other information you have used. You are anticipating the reader's question as he or she reads what you have written. Is this really so and how does the author know it? Footnotes give sources for:

1. Direct quotes: Smith has claimed, "..." Smith's actual

words are presented between quotation marks or as a block quote, depending on the length.

- 2. Indirect quotes, when you paraphrase (restate in your own words) someone else's ideas, opinions, and theories. For example Smith has argued that . . .¹ and you paraphrase what he said.
- Facts and figures, which give the data backing up a statement.

Document your sources adequately. Otherwise it may look as if you have stolen other people's ideas, and are passing them off as your own. This is called *plagiarism* (the English word plagiarism comes from the Latin word for kidnapper).

As you write your first draft, put a footnote number in the margin whenever you need to document

what you have written. On a separate sheet, write the footnote number and the details of the source—author, title, and page number. It is a good idea to use cards for the details of each footnote rather than to list them on a single sheet. If you change the order of footnotes later, it is simple to rearrange the cards ready for typing the final draft.

Sometimes you will be required to put your footnote at the bottom of the page where they are referred to. This is easiest for the reader. Word processors can automatically place footnotes on the right page. An easier alternative, if you are typing or handwriting, is to list the footnotes at the end of the paper. The heading "Notes" is then often used for this section, because strictly the footnotes are no longer foot-of-the-page notes. Find out which location for footnotes is preferred (or required) for your paper.

Footnotes are numbered consecutively from 1 onward throughout the paper. Usually, the footnote number is shown as a superscript (raised above the line, e.g.1) after the quotation or other material referred to. The same number appears before the footnote itself at the bottom of the page or at the end of the paper. Here, the number is shown as a superscript before the text of the footnote.

Footnotes usually include only enough information to identify the source. Full details of each source are given in the bibliography or list of references. Note that the title of a book or journal or newspaper is presented in italic tupe. This is usually indicated in a paper by underlining. The first lines of each footnote is indented like a paragraph.

'Theodore Besterman, UNESCO, p.9 (a book with a single author)

²Donald Michie and Rory Johnston, The Knowledge Machine, ch.9 (a chapter in a book by two authors)

3Zena Sutherland, ed. The Best in Children's Books, p.21 (an edited book--sometimes the title is given first, followed by the editor's

4"Caesar, Julius, " World Book Encyclopedia, 1989, vol.3, p.12 (an unsigned article in an encyclopedia--if the article is signed the footnote begins with the name of the contributor).

"Opposition mounts against Major and European Union, " Sydney Morning Herald, June 22, 1991, p.13 (unsigned article in a newspaper--if the article is signed the footnote begins with author's name).

'Lord Annan, "British Higher Education, 1960-1980 . . . , " Minerva, 1982, p.5 (a signed article in a periodical -- the ellipsis indicates that some words are omitted)

List of references. The bibliography, or list of references, is a list of all the published sources that you used to prepare your paper. It appears at the end of your paper. Do not include items that you consulted, but did not actually use. The bibliography identifies your sources exactly, and usually provides more information about them than the footnotes. The entries are arranged alphabetically; by surname of the author, or if there is no author by the first word that is not "the," "a," or "an" in a title of an article.

Bibliographies are compiled in a variety of styles which specify the order of elements and the punctuation for each entry. Check to see what bibliographic style you have to use. The titles of books and journals are usually presented in italic type.

Editing your own work is one of the hardest and most important tasks in turning out a well-written paper. Look for weak spots in content, organization, and writing style, as well as for errors in grammar, spelling, capitalization, and punctuation.

enclosures, enclosure that resemble sleeping bags. These enable -down to stop themselves from astronauts to sleep unstrapped without floating about.

Eating and drinking. Eating aboard the space shuttle olso tequired astronauts to involves adjusting to the conditions of weightlessness. Astronauts eat their meals with their feet strapped down.

Their food to keep them from floating about Food must be nutritious, easy to eat, and convenient go store. Foods include frozen or chilled soups, vegetables, and meats. facilities for fleating.
The shuttle has wave to heat food. The astronauts eat use with dishes and cutlery.

indicated in your paper by underlining. The elements that must be included are:

- for books: person or persons responsible for the content (author, editor, compiler, or translator, for example), place of publication, publisher, and date of publication.
- 2. for articles in a periodical or magazine or encyclopedia: author, title of article, name of periodical or encyclopedia, volume number, date, and inclusive pages.

The footnotes given above would appear in a bibliography as follows:

Annan, Lord. "British Higher Education, 1960-1980: A Personal Retrospect," *Minerva* 20 (1982): 1-24.

Besterman, Theodore.

UNESCO: Peace in the
Minds of Men. London:
Methuen, 1951.

"Caesar, Julius," World Book Encyclopedia 1992, vol.3, pp.12-14 (note that pp. is abbreviation for pages, p. for page). Michie, Donald and Johnston, Rory, The Knowledge Machine: Artificial Intelligence and the Future of Man. New York: Morrow, 1985.

"Opposition Mounts
Against Major and European Union," Sydney
Morning Herald, June 22,
1991, p.13.

Sutherland, Zena, ed. The Best in Children's Books. Chicago: University of Chicago Press, 1973.

Preparing a bibliography requires patience and attention to detail. Be sure to include all the relevant details on your bibliography cards when you first consult your sources. Otherwise you will waste time trying to relocate the sources again at the time of writing your paper.

Other sources. You may use sources other than printed books and periodical articles. You might, for example, have conducted a series of interviews or consulted in your local library some unpublished documents (such as diaries or letters). List them under a heading "Other Sources." For interviews, give the name of the person, title or

position, and the date of the interview. If you interviewed more than one person, list them in alphabetical order by surnames. If you consulted unpublished documents, give the name of the person who wrote them, what kind of documents they were (for example, unpublished diary), and where they can be found.

Appendices. You may decide to include in your paper tables, charts, graphs, diagrams, lists, or other special material. Place them at the end of the paper and label each item Appendix A, Appendix B, and so on. Each item should be given a title. In the appropriate place in your text, you can refer to the material with a cross-reference to the relevant appendix. For example, you could say: "For a list of nuclear power stations in the United Kingdom see Appendix A."

Front matter. The front matter of your paper is important. It introduces your paper to the readers, and prepares them for the argument or case you are going to make. In addition to the title page and the table of contents, it is often useful to give an abstract or brief summary of the paper. This can appear on the title page itself, but is usually given on a separate page headed "Abstract" or "Summary." Notice how the title page, table of contents and abstract or summary do almost

"The front matter . . .

is important.

A good title page will

tell your reader at
a glance what is coming."

the same thing, but with increasing amounts of detail, in preparing the reader for what follows.

A good title page will tell your reader at a glance what is coming. It should give the following information presented very clearly.

- 1. The paper's title. Sometimes this may actually be a thesis sentence
- 2. Your name as the author
- 3. Who (or what class) the paper is
- The date you hand in the paper

A Table of Contents, or detailed outline, indicates the major ideas of the paper, and the order in which they are presented. It also tells the reader how long the various sections are, and where to find the "apparatus" (the bibliography, footnotes, if included at the end of the paper, and any appendices). It also lists the Summary or Abstract of the paper, if 4. you have provided one. When you draw up the table of contents for your paper, keep in mind the model 5. provided by a book's table of contents.

The main elements of the table of contents are:

- Headings such as Contents, or Table of Contents, or Outline
- 2. Summary or Abstract
- 3. The main sections or Chapters, and their sub-sections
- 4. Notes or footnotes
- Bibliography or References
- 6. Other sources

The final copy. If you are given a style sheet for preparing your paper, follow it exactly when making the final copy. If there is no style sheet, follow these guidelines, Using a word processor makes much of what is listed here very easy to do.

- 1. Type on good quality white typing paper. Use one side of the paper only. Make sure you have a new ribbon in your typewriter or printer that gives good dark, legible copy. If you are handwriting the paper, write in dark blue or black ink on one side of standard ruled paper.
- Leave good margins around your paper. Sensible margins are about 3 cm on the left and 2.5 cm on the right, the top, and bottom of the paper. Start the outline or title page about 5 cm from the top.
- Double-space the text.
- Indent all paragraphs by the same number of spaces.
- Double-space between the main headlines of your outline or table of contents.
- Indent the first line of a footnote and put the second and following lines flush with the left margin. Single-space the lines within a footnote, but leave a line space between footnotes.
- Begin each bibliography entry at the left margin. Single-space within each entry, but double-space between entries.
- Indent single-space quotations, rather than run them into the text.
- Number all pages, except the title page. Use lower-case (small letters) Roman numbers (i, ii) for the outline pages and Arabic numerals (1,2) for all other

pages. Centre the number at the bottom of the first page of the outline, the text, and the bibliography. Centre the number at the top of all other pages, or place it at the top right margin.

- 10. After you've finished typing or writing all the parts of your paper, assemble them in the following order:
 - (a) Title page
 - Table of contents or final outline, including the title of the paper and the thesis sentence if that is appropriate.
 - Text of the paper
 - Notes
 - Bibliography
 - Appendix, if included

Make an extra copy of your paper for yourself. Fasten your paper in the upper left-hand corner, or put it in a folder or binder. Now you have finished!

If you pay close attention to these details, your paper will make a good impression. The reader will know at the outset what you are trying to do. The paper will look good, and be easy to read because it is well set out. You will not spoil it because of careless mistakes of spelling, punctuation, or grammar. What matters most is the quality of research and thought that you have put into your work. These will be enhanced by careful presentation.



A Guide to

Speaking Skills

If you're like most people, you spend a lot of time talking. Yet the thought of making a speech before an audience may fill you with dread. If so, you're not alone. Many people are terrified if they have to make a public speech.

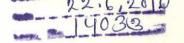
The guidelines given here for preparing and delivering a speech can help you become a confident speaker. You may never have to address a huge audience. But as a student, you'll give a variety of oral reports. And sometime during your life you are very likely to be asked to give a committee report at a club meeting, ask for donations for a charity, or make a presentation to your boss. Learning how to handle speaking situations with ease is a

skill well worth developing. It will help you communicate more effectively in a wide variety of everyday situations.

Preparing a Speech

There are six basic steps to follow in preparing a speech. They are (1) analysing the audience, (2) choosing a topic, (3) determining the purpose of the speech, (4) gathering information, (5) organizing the content, and (6) choosing a format.

Analysing the audience. To speak effectively before a group of people, you need to know something about them. You need to know such factors as their age and educational level and their attitudes regarding various subjects. You also



must know the size of your audi-

Age and educational level. People of different ages and educational levels have different vocabularies and different abilities to understand ideas. Be sure your audience can understand what you're talking about and adjust your vocabulary to their abilities. Also consider how much knowledge about the topic your audience already has. For example, a talk about life in Ancient Rome presented to a group of 8year-olds would be far different from a talk on the same topic presented to a group of senior school students. The language you use and the number and kinds of facts you present would differ.

Attitudes. If you are presenting a controversial topic, try to find what attitude your audience already holds toward the topic. Are most of the members inclined to agree or disagree with the position you will present? Or are they indifferent? If they're indifferent or likely to disagree, you may have to gather more facts and present them more forcefully to be effective.

Size. A large group may require a more formal speech presentation than a small group. If the group is large, you may be speaking from behind a podium or on a stage. If the group is small, you simply may be seated at a table with the other members of the group. These factors may influence your choice of speech format and your delivery techniques.

Choosing a topic. There are several points to consider in choosing a topic. First, choose a topic that interests you or that you already know something about. You're more likely to enjoy preparing and delivering a speech on a topic you like than on one you don't particularly care about. You're also more likely to get a good response from your audience. Second, consider the probable interests of your audience. A talk on how to improve scores on video games might win an enthusi-

astic response from teenagers. But such a talk would probably be of little interest to a group of senior citizens. Third, make sure the topic and tone of your speech fit the occasion. You would not make the same kind of speech at a firm's dinner as you would at a sports club party. Fourth, if your topic needs research, see that the information is readily available. Finally, make sure you can cover your topic adequately within the time allowed. Limit your topic so you can present your main idea and support it with relevant details.

Determining the purpose. Almost every speech has at least one of three main purposes: (1) to inform, (2) to persuade, or (3) to entertain. An informative speech provides information and consists largely of facts presented in a straightforward manner. A persuasive speech tries to convince an audience to do something or adopt a particular point of view. Persuasive speeches may rely on emotional appeals as well as facts to achieve their purpose. An entertaining speech provides a pleasant experience for the audience and may have a more informal tone than the other two kinds of speeches.

Many speeches have two or three main purposes. For example, you may try to entertain the members of your audience in order to win them over-or persuade them-to accept your point of view.

Gathering information. If your speech requires information you don't already have, you'll need to do research. Here are three ways to go about it:

- 1. Observe the subject matter itself. If your speech is about how newspapers are recycled. for example, you could visit a recycling plant to observe the process.
- 2. Use the library. The books, magazines, newspapers, pamphlets, and other materials you'll find in your public library will provide information on almost any speech topic.
- 3. Interview an expert or others who have firsthand knowledge. If you're preparing a speech on the effects of budget cutbacks on primary schools, for example, you might interview the head teacher and some of the other teachers at a local primary school.

For pointers on how to do research, see "A Guide to Research Skills" on pages 28-40.

Organizing the content. Like a written report, a good speech requires careful organization. Most speeches are organized in three parts: (1) the introduction, (2) the body, and (3) the conclusion.

Be sure your audience can understand what you're talking about and adjust your vocabulary to their abilities."

As you develop the content of your speech, always keep in mind the importance of attracting your audience's interest in the beginning and holding it to the end. The introduction to your speech needs to tell the members of your audience what your speech is about—but in a way that will make them want to listen. Don't begin by saying, "This speech is about..." Instead, try using a personal anecdote or lead in with a dramatic statement.

In the body of the speech, present your main points and supporting details. Make sure the details are closely related to your topic and interesting to your audience. You can present your main points in several ways, depending on your topic. You can arrange them in order of importance, putting the most important points first. You can use chronological order, describing events in the order in which they occurred. In some speeches, you might discuss a topic that is new to your audience or difficult to understand. In such cases, begin with the simplest facts and work your way up to the more difficult ones. Or think of something that the members of your audience already know about that could help them understand the new or more difficult topic.

The conclusion of your speech is your last opportunity to impress the members of your audience. Try to leave them with something to think about. In many cases, a quotation from a famous person could provide a memorable conclusion to your topic.

An outline can help you organize the ideas and facts that make up each part of your speech. The phrases or sentences of the outline briefly state the points to be presented. You may use a formal outline format like the one on page 21 in "A Guide to Writing Skills." Or your outline may consist of a simple list of points to be covered—in proper order, of course. You can use the outline as a guide when you deliver your speech.

A speaker's check list

There are many steps involved in the preparation of an effective speech. It is easy to forget a step or two along the way. And yet this would be the kind of mistake that could ruin a presentation. If you are about to begin the preparation of a speech, use the following questions to make sure you cover all the points.

 Have I carefully studied and analysed the audience? Have I chosen a topic for my speech that not only interests me, but is also adaptable 		9 <u></u> 18 -
to the likes and dislikes of my audience?	HAR PLANT	(hier
3. Have I set the purpose of my speech?		
4. Have I carefully gathered all of the		
information and materials I will need to document my speech?		21 24 2
5. Have I developed a well-organized and		
logical outline for my speech?	PRINCE LAND	A month
6. Have I rehearsed my presentation to the		
point that I am sure I can deliver the		
speech confidently and without hesitation?		1 N 516

Choosing a format. You need to decide what kind of format to use in delivering your speech. You have four choices: (1) reading the speech, (2) memorizing the speech, (3) speaking impromptu, and (4) speaking extemporaneously. In choosing a speech format, make sure it is one you are comfortable with and one that suits the occasion. Each format has advantages and disadvantages.

Reading the speech may seem like the safest format. You don't have to worry about forgetting anything, and you can make sure your speech precisely fits the allotted time. But reading your speech also has disadvantages. You may become so engrossed in your papers that you forget to look up at the audience. You may begin speaking in a monotone, causing your listeners to lose interest. Once they've lost interest, the point of your speech may never get across. Reading your speech also makes it difficult to adjust the content in response to audience reactions.

If you choose to read your speech, type it double-spaced or write it out neatly so that you can read it easily. Some people write their speeches on large note cards and make an effort to look up at the audience at least at the end of each card.

Memorizing the speech requires that you first write it out and then memorize it word for word. Depending on the length of the speech, this type of delivery could mean hours or days of extra preparation time and effort. The format also has several other disadvantages. You might skip an important point or forget what comes next. You might concentrate so hard on remembering the speech that your voice sounds unnatural. And you'll be unlikely to add remarks or otherwise adjust your speech to suit the mood of the audience. If you decide to memorize your speech, you'll have to keep in mind the need to make your delivery natural and relaxed.

Speaking impromptu requires lit-

tle or no preparation. As a result, it is rarely used for a formal speech. Comments offered at a committee meeting or club gathering are examples of impromptu speaking. This format can succeed only if you are well-informed about the subject. An impromptu speech enables you to give a lively, spontaneous delivery. What you say can be suited specifically to the mood of the audience. But an impromptu speech risks being unorganized. Without adequate preparation, you may ramble and never get your point across effectively. If you know ahead of time that you'd like to say something at a

meeting or other occasion, take at least a few minutes to organize your thoughts and perhaps jot down your main ideas.

Speaking extemporaneously is the most commonly used type of delivery in public speaking. You organize your ideas in a written outline and use it as a guide when you give your speech. An extemporaneous speech has the advantage of being both organized and spontaneous. Although you don't write down the complete speech, you can refer to the key words or sentences of the outline to keep yourself "on track." You can easily add or omit details

on the basis of audience reaction. And it's not as difficult to maintain eye contact with your audience when you speak extemporaneously as it is when you read from a manu-

To take full advantage of the flexibility of the extemporaneous speech, learn about your topic in depth. Gather more details than you'll actually need. That way, you'll have a full stock of material to draw upon to keep your speech interesting. You can also vary the content, depending on the audience's reaction.

Rehearsing and Delivering a Speech

After you've completed all the steps in preparing your speech, you're ready to begin rehearsing, unless you're going to give an impromptu speech. Rehearsing is obviously necessary for a memorized speech, but it is also vital to a good extemporaneous speech or to a speech you plan to read. The more you rehearse your speech, the more confident you'll be when the time comes to deliver it.

As you rehearse, remember that you want to convey more than information. You also want to convey enthusiasm for your topic. If you sound interested, your audience will be more likely to listen to, and enjoy, your speech.

How to rehearse. Begin rehearsing by using your outline or reading aloud from your manuscript. As you repeat the speech many times, you'll come to depend less and less on your written words. If possible, make a tape recording of your speech and listen to it critically. You may find that you're not pronouncing all your words clearly or that you're going too fast or too slow.

Next, practise in front of a mirror, paying attention to your posture and gestures. Then, ask someone to listen to your speech and give an honest reaction to both content and delivery. Your listener may be able to spot distracting mannerisms that you should correct, such as clenching your fists at your sides or shuffling your feet. Finally, if you will be delivering your speech in an unfamiliar place, try to practise it there at least once. That way, you can practise with a podium and microphone if they are to be provided.

Your voice. The way you use your voice can add greatly to the impression you make when delivering your speech. As you speak, pay special attention to the volume, speed, and pitch of your voice and to clarity of pronunciation.

Volume. Obviously, you'll want to speak loudly enough so that the audience can easily hear you. You'll have to consider such factors as the size of the room, whether you'll be using a microphone, and whether there are outside noises you must speak over. Whatever the situation, try to vary your volume to make your voice sound more interesting. At times, you might speak more loudly to emphasize an important point. At other times, you might gain attention by speaking more softly, making the audience listen more carefully.

Speed. Don't speak so fast that you slur your words or become difficult to understand. If you have a time limit, pace yourself so that you can finish your speech without having to hurry at the end. Varying your speed from time to time can make your speech more effective. You can slow down to emphasize a point. And a dramatic pause at the end of a particularly important statement can be an effective technique.

Pitch is how high or low your voice sounds. You vary your pitch automatically during normal conversation. Your voice sounds higher when you are excited and lower when you are serious. During a speech, your voice should follow this natural pattern of pitch variation. Try to avoid speaking in a monotone.

Clarity of pronunciation. Speak as distinctly as you can without sounding unnatural. Avoid saying "er" or "um" between words or phrases. Enunciate word endings, such as ing, clearly.

Your appearance and the way you use your body can be almost as important as your voice when you give a speech. Dress neatly in comfortable clothing that is suitable for the occasion. Avoid unusual clothes or jewellery that might distract the



The more you rehearse your speech, the more confident you'll be when the time comes to deliver it. . . . Begin rehearsing by using your outline. . . . Practise in front of a mirror, paying attention to your posture and gestures.

audience or get in your way as you speak. Stand up straight, but in a relaxed manner. Don't slouch or lean on the podium if you're using one. Try to keep a pleasant expression on your face.

As you speak, keep eye contact with your audience. Don't look up at the ceiling or down at the floor. If you're reading from a manuscript, hold it up slightly so that you can easily glance at the audience from time to time.

Gestures can help emphasize important parts of your speech. But don't overdo them. If you gesture constantly, you'll lessen the effect and make the audience more aware of your gestures than your words. And make sure your gestures look natural and blend smoothly with what you're saying.

Audio-visual aids can enliven your presentation. Such aids include drawings, photographs, maps, charts, graphs, diagrams, blackboards, models, slides, films, records, tape recordings, and videotapes. Audio-visual aids can add welcome variety to your speech and help hold the audience's attention. They can enable the audience to understand exactly what you mean. They can also make your speech more memorable by leaving the audience with a more vivid impression of your topic than words alone can convey.

Whichever kind of audio-visual aid

"When your turn comes, take a deep breath . . . Remember that your audience is on your side . . . "

you choose, be sure it serves a definite purpose. An effective aid should clarify, illustrate, or dramatize a fact or idea. For example, a speech explaining how the human ear works would benefit from a drawing or model of an ear. A discussion of various dialects might be greatly enhanced by a tape recording.

Be sure your audio-visual aid fits your needs precisely. If you want to show where major battles of the First World War occurred, for example, don't use a map of the entire Eastern Hemisphere. In graphs and charts, the use of different colours can make statistical comparisons much easier to understand. You also need to be sure that your aid is big enough to be seen by the entire audience and that it is clearly labelled. Take into consideration the size of the room and the size of the audience as you choose and prepare your audio-visual aids.

It's important to rehearse with your audio-visual aids so you can incorporate them smoothly into your speech. Here's a list of points to remember when using audio-visual

- 1. Have them set up and ready to use before you begin speaking. If an aid is particularly interesting or unusual, it may be a good idea to have the aid handy, but hidden, until the appropriate time in your speech. Otherwise, your audience may be too distracted to pay close attention to the earlier parts of your speech.
- Mount illustrations and set them up on an easel, rather than trying to hold them while speaking.
- If you're going to write on a blackboard or paper, remember to keep turning back to your listeners to keep your eye contact with them.
- If you'll be using such equipment as a film projector or tape recorder, be sure it's in good working order and that an electrical outlet is nearby.
- Don't pass a visual aid around during your speech. It's too distracting. If you have material

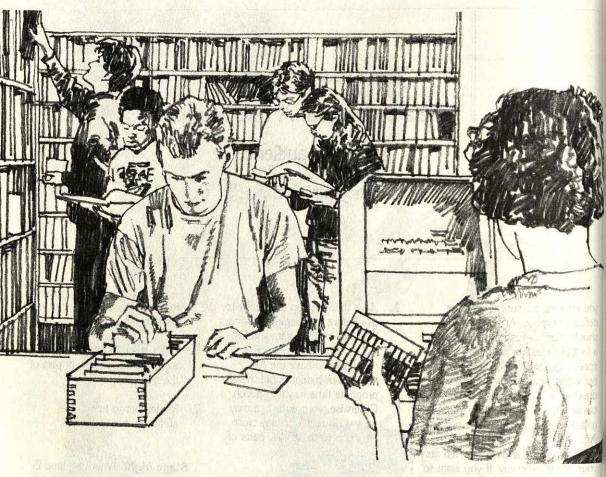
MARKET W.E. STRAN

- to pass out, do it before or after your speech.
- 6. Don't stand in front of a visual aid or block the view of part of the audience.
- 7. Remember to talk to the audience, not to the aid.

Stage fright. When the time finally comes to deliver your speech, you'll probably suffer from that common ailment-stage fright. To keep your nervousness from working against you, concentrate on what the person speaking before you is saying, rather than worrying about your own presentation.

When your turn comes, take a deep breath or two to help stay calm. Act confident, even if you don't feel confident. Remember that your audience is on your side. Walk briskly to your place and look directly at the audience to gain people's attention. Then begin. Once you begin speaking, your nervousness will decrease.





A Guide to

Research Skills

Asking questions and finding answers is what research is all about. If you know where to go or the person to ask to get answers to your questions, you've developed a skill that you can use all your life—in school, in a career, and in many everyday situations.

Research is usually necessary for most papers that you have to write. You will need to find information to answer the question set. You will have to discover what is known about the subject or the arguments that have been put forward in support of, or against, it. Usually you

will have to use a number of sources to find out all that you need to know. Sometimes such sources will present conflicting information. When this happens, you will need to confirm from other sources what is the case. When you do research, you not only find information but you also assess how accurate and reliable the information is.

How to find out. Knowing how to find out is tremendously important. It involves knowing how to work out questions and where to find answers to them. See the section "Asking Questions" on page 9.

Good research skills will help you in preparing work for school. Such skills can be equally important outside school. Later on, research skills will be invaluable when you go to college or university or get a job.

The library is a key research resource. This next section is about the library. It gives some general rules to follow in using libraries. It also suggests some of the other ways in which you can find information—such as writing away for it, interviewing people, conducting a survey, using television, and visiting museums and galleries.

Libraries in the Community and You

Libraries are probably the first places that come to mind when you think about doing research. They contain a wealth of information. Often, if you use them skilfully, they will have all the information you may need for your research, whether it is for coursework, a report, or a paper you are producing.

In many communities, there are different kinds of libraries that you could use. First, for school students. is the school library. It is organized primarily to support school work. Most towns and villages also have their own public library or a branch of the main public library.

There may be a college or university library nearby which you could gain permission to use if you needed to. Sometimes there are also other "special" libraries in your community. These libraries are attached to businesses, law firms, or government agencies. Normally they are not open to the general public. However, if you need specialist material from them, it is possible that your school or public librarian could arrange for you to use them.

What the library provides. Do not be put off if the library near you is big and imposing. When you get to know it, you will find that it is organized in such a way that it is easy to use. All libraries, large or small, have:

- 1. A collection. The rule here is: explore the library and get to know the collection!
- 2. A catalogue and other tools for accessing the collection The rule here is: consult the catalogue frequently! It's the only way you can be sure that you are using the collection effectively.
- 3. Librarians. The rule here is: ask the librarians whenever you need help!

The collections. The largest part of the collections of most libraries consists of books and pamphlets, periodicals (or magazines), and newspapers. Often old issues of periodicals and newspapers are photographed on microfilm, so that they take up less space. Reels of microfilm have to be read in a special reader that enlarges the photos of the pages to normal size. Microfilm is easier and cheaper for the library than trying to obtain and keep the regular copies.

Librarians try as far as they can to obtain all of the different kinds of materials that people could use. Thus, most libraries contain not only books and other kinds of printed material, but also art prints, maps, sheet music, music scores, photographs, records, cassettes, audio and video tapes, compact discs, documentary and feature films, and computer programs. The library will usually have the equipment that you need to be able to consult the special kinds of material, such as record or CD players, slide and film projectors, video players and microcomputers (pcs). There will also be microfilm readers and photocopiers.

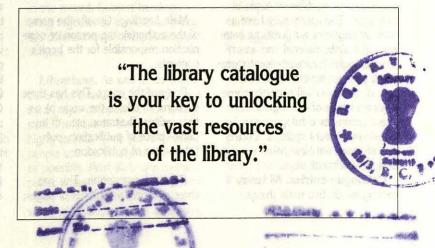
Sections of the library. Most libraries have two major sectionsthe general circulation section and the reference section. The circulation collection contains the fiction and non-fiction books and other

materials that people can borrow for home use.

The reference section has materials that must be used in the library. Most books in the reference collection are intended not to be read from cover to cover but to be referred to as needed. Reference books include encyclopedias, dictionaries, and atlases. These and the many other kinds of reference works play an important role in research. Depending on the size of the library, reference sections can vary from one or two shelves to one or more large rooms.

Shelving the collections. Most libraries place books and other material, such as videos, on open shelves where you can look for them yourself. Fiction (such as novels) is often arranged on the open shelves alphabetically by author's surname. Non-fiction is arranged in subject order according to a system of classification such as the Dewey Decimal Classification.

Sometimes, very large libraries will keep parts of their collection, usually the older books and back runs of periodicals and newspapers, in stacks. These are storage areas not open to the public. You have to apply at a special desk to consult anything held in the stacks. Separate arrangements may be made for other kinds of material such as maps and music.



Classification. The system of classification used in most school and public libraries is the Dewey Decimal system (see page 38 for an outline of the Dewey system). Some large libraries use the Library of Congress system. Both systems originated in the United States. If you know how the classification system works, you can locate in your local library quickly a book whose shelf number you have found in the catalogue. The classification arranges books on related subjects together. So you can browse along the shelves to find books at the Dewey number for the general subject you are interested in.

The library catalogue. The best way of finding out what a library has is to consult the catalogue. It also tells you where materials are located on the shelves. Sometimes special material such as records, films or videos are not included in the main catalogue but are listed separately. Newspapers and periodicals may also be listed separately.

There are a number of forms of catalogues. The card catalogue is the most traditional form in libraries. However, it is rapidly being replaced or supplemented by other kinds of catalogues. The most important of these is the online computer catalogue. To consult this kind of catalogue, you sit at a terminal and use a keyboard to type in commands to the computer.

It is not unusual for one library to use two or three different kinds of catalogue. The library may have a card catalogue or a microfiche catalogue for older material and an online catalogue for more recent material. If you use several libraries in your district, you will certainly come across a range of catalogues. Different computer catalogues can be based on different systems. Consequently each will have to be used in a slightly different way.

Catalogue entries. All library catalogues do two main things.

They tell you:

- What books the library has by what authors:
- 2. What books the library has on what subjects.

Most catalogues give you the same general information about a book. This is because librarians generally use a central catalogue record that is prepared by the national library. Such records are distributed both nationally and internationally. Often, though, the information in the record is presented in different ways in different catalogues.

Some computer catalogues display on their screens detailed information that is arranged like a catalogue card. Others give you information in stages, beginning with just a brief entry. You have to tell the system to display a fuller record if you need it. Some information, such as the international book number and the price of the book, may not always be given.

The record shown on page 31 was created by the British Library and has been taken from the online database of the National Library of Australia. It has been used to make catalogue entries by various libraries owning the book. All of the entries for this book in the various catalogues will be similar; none of them will be the same.

The information in the catalogue record is in a series of blocks.

Main heading. Usually the name of the author(s): the person or organization responsible for the book's contents.

Body of the entry. This has three sections: a) title of the work; b) author, editor, illustrator, etc.; c) imprint—place of publication, publisher, date of publication

Physical description. This has three sections a) number of pages;

b) illustrations, maps etc; c) vertical

Notes. These tell you about some special feature of the work or about its publishing history.

Bibliography and index details. It is useful to know if a book has either or both.

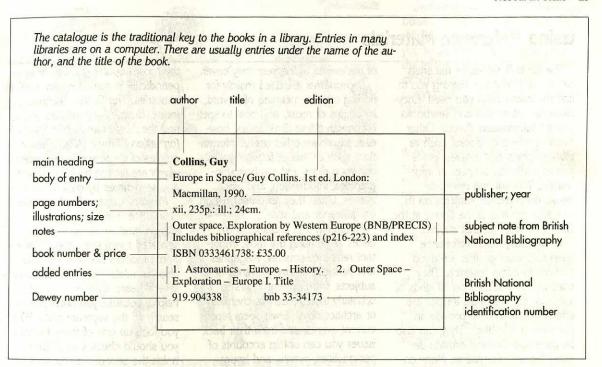
Book trade information such as the International Standard Book Number (ISBN), and price.

Added entry headings. These show where other entries in the catalogue have been made for the work.

Dewey Classification number and other identifying numbers.

All these pieces of information in the catalogue entry can be of use. Suppose you are looking for a recent, short illustrated book that gives a brief survey of a topic from a British point of view and has references that you could follow up. Careful study of the catalogue record will tell you what you want to know. The list of additional headings under which a particular book has been entered in the catalogue is especially important. It suggests other headings you might look up to find similar books.

Call numbers. Catalogue entries also provide a shelf or "call" number for a book. Call numbers show you where to find a particular book on the shelves. The call number appears on the spine of the book and in the catalogue entry. Most call numbers consist of three parts. First is a Dewey classification number. Under this is what librarians call a Cutter number. This is a letter and number code based on the author's last name. Under the Cutter number is an individual book number. Taken together, these numbers uniquely identify a particular book and its location on the shelves.



Sometimes in a call number other letters appear in front of the classification number. This prefix indicates that the book is kept in a separate arrangement from other books in the library. Books in the reference section, for example, are often marked R or REF. Fiction books are often simply marked F, and are shelved alphabetically by the last name of the author. Sometimes biographies are marked B, and are shelved alphabetically by the last name of their subject, the person the biography is about.

Searching by subject. The catalogue helps you to find books and other material on subjects, or topics, you are interested in. The rule for searching a catalogue by subject is: think of a precise term for what you want to find. In most library catalogues, a book on dogs will be entered under "dogs," not "animals". If you look under specific headings you will not have to search through a large number of irrelevant entries to find what you want.

In a traditional library card catalogue, you can only search for a subject using the subject headings that librarians have assigned to particular works. Computer catalogues allow you to do this kind of searching, but also allow you to search by one or more keywords. These are names of people or subject words that can occur in the title or elsewhere in the catalogue record (such as "Western Europe" in the example on this page). A keyword search only identifies books that have the exact words in the title or elsewhere in the record. If you relied on keywords alone, you would miss all the other books on the topic where those particular words do not appear in the record. Subject headings bring together in a systematic way the different ways of expressing a subject.

Librarians. As well as its collections and catalogue, a library has a third major component: the library staff. Professional librarians are highly trained. Their job is to help people use the library as effectively as possible. Most librarians in the public areas of the library set themselves tasks to do while they are waiting for people to ask questions.

So do not be put off from asking for help because the librarians seem busy. If they are dealing with another client you should simply wait your turn. If they are doing something else, you should politely interrupt them.

The best way to get the help you need is to tell the librarians what you have done already, and ask their advice about what to do next. Librarians are there to help, rather than to do your work for you. If you keep this thought in mind, you will find that consulting them can be very rewarding.

Subject searching in a catalogue can be difficult. Librarians can help in suggesting search strategies. These are ways of going about a complicated search. They will ask you questions to find out what you are really looking for. Whenever you are not sure of where something you want is, or how to operate a piece of equipment, or how to go about finding information that you need, the fundamental rule is: ask a librarian

Using Reference Materials

The library's reference materials can be very useful in helping you to find the information you need. Encyclopedias, almanacs and yearbooks provide information directly. Other kinds of reference books, such as bibliographies and indexes, quide you to additional sources of information. You will find reference books on particular subjects on the reference shelves of the library at the Dewey number for that subject.

Frequently used reference works. Encyclopedias are good sources to begin research. They contain many articles on all kinds of subjects. Encyclopedia articles are often general, and so provide an overview of a subject. They can also be quite specific, and provide detailed factual information. Many encyclopedias have very detailed indexes that help you locate information on a topic contained in a number of articles. See World Book and its index as an example.

Yearbooks and almanacs. Many encyclopedias, including World Book, publish annual supplements or yearbooks. Yearbooks and almanacs are a good source of up-todate statistics and other current information on many topics in the fields of politics, government, the economy, sport and entertainment, and foreign countries. These annual publications often provide a survey

of the events of the year they cover.

Dictionaries are used mainly for finding out the meaning of a word, its origins or roots, and how to spell it correctly. Most dictionaries, however, also have other useful information, such as lists of foreign words, common signs and symbols, biographical information, and place names. Often they have information on grammar and style.

Periodical and newspaper indexes are among the most important reference sources. Magazines and periodicals cover all kinds of subjects, from current affairs to scholarly topics (such as chemistry or archaeology). Newspapers report current events, and from their back issues you can obtain accounts of personalities, events, and issues from the past as written at the time. Periodical and newspaper indexes tell you where to find articles on the subject you are investigating.

Periodical indexes are of two types. Most periodicals issue annual indexes of the articles, book reviews, obituaries and other features that they included during the previous year. There are also "collective" periodical indexes that index a range of periodicals in a general or specific subject area. Readers' Guide to Periodical Literature, for example, indexes more than 200 leading American nontechnical magazines. It is

the most popular general index to periodicals in most English-speaking countries. The British Technology Index, Business Periodicals Index. and the Australian Public Affairs In formation Service (APAIS) are examples of more specialized indexes which are limited both by subject and sometimes by country as well.

Many of these collective indexes "cumulate" (separate issues are merged and re-issued in a consolidated form) throughout the year Some indexes like Readers' Guide also cumulate into volumes covering several years. Cumulations are very helpful because you don't have to search all the separate parts. When you look up one of these indexes, you should check if your library holds the periodicals you have found references for. If a particular period cal is not in your library, ask the librarian to identify libraries near you that do have it. When you have references for material that is difficult to find locally, you can request the librarian to borrow them for you through inter-library loan between your library and another library.

Readers' Guide entries are in a combined alphabetic arrangement (like a dictionary) by subject, author and, sometimes, by title. Abbreviations are used in many parts of the entry, including the names of the periodicals. These abbreviations are explained in the front of each issue of the Guide. The example is a typical entry from Readers' Guide

"Encyclopedias are good Space Flight to Mars Why send humans to Mars? [Space Exploration Initiative; cover storyl C.

Sagan. bibl Issues in Science and Technology 7:80-85 Late Spring 1991.

Many indexes are now available both in printed form and in comput erized form on CD-ROM. If your local library does not have the CD-ROM version of the general index for

places to begin research. Encyclopedia articles are often general, and so provide an overview of a subject."



A museum or art gallery is a research source that can give students first-hand experience of a topic.

the subject you are investigating, another library near you may have. So it's worth checking. The CD-ROM indexes are quicker to use and allow more complex and interesting searches than the printed versions.

Many periodicals and other publications appear on CD-ROM with a built-in index. Access to the index on a computer quickly leads to the indexed information appearing on the computer screen.

Newspaper indexes. Some public libraries index the local newspaper. Such indexes are an invaluable source of information about the community. A number of important national newspapers provide published indexes. Both The Times (sometimes called the London Times) and the New York Times provide broad coverage of international events as well as of what happens in the United Kingdom or the United States. Many libraries subscribe to one or both of these newspapers because of their importance and because they are available in

microfilm or CD-ROM editions. Having indexes in print or on CD-ROM make them invaluable for reference. By checking in these indexes for the date on which an article appeared about a particular subject, you can find out when an article on the same topic was likely to have appeared in your own local or national newspaper.

Here is a typical entry for The

Space

Discovery shuttle forced to dodge orbiting space debris, SEPT 17, 1h China-10,000 middle-aged scientists are to be retrained as aerospace experts to replace industry's ageing workforce by year 2000, (THES) SEPT 13,

A search with a CD-ROM index produces similar information, but enables you to read the actual newspaper story, at the press of a button, on the same screen as the index.

Judging the value of reference books. When you have found the reference work you want, how are you to decide if it is likely to have the information you want and if that information can be trusted? In analysing it, you should take into account several factors:

Scope of coverage. How well does the work cover the subject you are interested in? Read the title and subtitle carefully—together they can tell you much about the work's scope. The preface or introduction will usually have a fairly detailed statement about what has been included or excluded. The table of contents will show how the subject of the work has been arranged. It will also indicate any special features. From the index you will see how much coverage your specific subject has been given.

Publication date. How up-to-date is the reference work? For some historical subjects, the date a work was published may not be important. But up-to-dateness will be very important in other areas. For example you will want to know how up to date a work is if you are investigating a rapidly developing area of knowledge, or you are concerned with a special time period, or you want information on the latest developments-in space research, perhaps, or in events in the countries of the former Soviet Union. The date of a book's publication sometimes appears on the bottom of the title page. Or you may have to check the copyright date, marked by a @ on the back of the title page.

Edition. Is this the latest edition of the work? The title page or copyright statement will tell you if it is the first or a revised edition. If there have been a number of editions of the book, it could mean that it has been well received, and is considered a standard work in the field. In this case, an outdated edition may contain information that has been

corrected or updated in a subsequent edition.

Authoritativeness. Is the information in the book reliable? This guestion is related to another. How expert is the author? Are his or her academic credentials given? If the author is well known in the field or has written other books on the subject, the work is likely to be reliable. Check the book jacket or the front matter of the book to find this kind of information. Are there footnotes. a bibliography of sources, and other indications of careful scholarship? Is there a list of acknowledgments of other experts whom the author has consulted? Is the publisher well known? Articles written for popular magazines, for example, are not always reliable. Look for authoritative articles through the more specialized indexes.

Bias. Are there biases that could interfere with the objectivity of the work? The author's viewpoint or bias may be perfectly obvious, indeed intended. But in other cases, a work may reflect a particular point of view, of which you should be aware. For example the reporting of the Gulf War, and other international matters of controversy, may vary according to the nationality of the reporter and the place where the report is published. Some works are explicitly written from a point of view clearly stated in the introduction. In others, bias becomes evident to the

reader from what has been included or what seems systematically to have been left out. This can result in the work having an American orientation, or a British one, or any other. To overcome any problem of bias you should try to use a variety of sources that represent different points of view. The compilers and editors of standard reference works such as encyclopedias, directories, almanacs and indexes try to be objective and comprehensive in their coverage, but they are not always successful!

Special features. Many books have special features such as illustrations, maps, and charts that could be helpful. Bibliographies may appear either at the end of chapters or at the end of the book. These reading lists can give you useful titles to follow up for more information. Appendices can also be very important. They might contain reprints of original documents, a special chronology (an outline of events organized by date), a bibliographical essay rather than a simple list, a glossary of technical terms and so on.

An important feature of most reference books is the index. Most books have a single index which includes names, subjects, titles and other entries in one sequence. Sometimes there are separate indexes for authors or the names of people mentioned in the book, and the subjects treated.

Getting the most out of reference works. To make full use of a reference work, take time to familiar ize yourself with its organization. Look for an introductory section that tells you how to use the work and what it covers. In the front there will be a key to abbreviations and a list of acknowledgments. Acknowledgments (read carefully) can often tell you something important about the work. The table of contents will give you a general idea of what is covered and how the work is organized It lists chapter titles and any special features such as illustrations, maps and appendices. Finally the index will guide you to where the information you want is located.

To use the index effectively, think of the word that most clearly identifies your topic. For information on Queen Victoria, look under "Victoria," not "Queen." For information on the Nile River look under "Nile" not "River."

After you have found the pages where the index tells you the information you need is located, scan the text quickly to check that the information is likely to be useful. Look at any headings, and the first or topic sentence of each paragraph. Sometimes there are summaries at the beginning or end of each chapter. All of these will provide clues about what is contained in the text and will help you save time. If you find anything of interest, make a bibliography card and then carefully take notes.

Preparing Bibliography Cards

When you write a paper you must acknowledge the sources you used in finding information. Make a note of each source; book or article, record or television programme. List each item on a separate bibliography card, writing on one side of the card only.

For a book you should record author, title, publisher, place and date of publication, and pages consulted. For a periodical, as well as giving the author and title of the article, you should also include volume number, title of periodical, date, and pages consulted. For a television programme you would list title, date of showing, and the channel on which it was shown. Record information on the cards in the same bibliographical format as you will use in your paper.

Number each card in the upper right hand corner. Use this number to identify the source when you are taking notes, to save repeating the bibliographical details. It can save time also to include the call number of the book or periodical, and the name of the library where you consulted it. Then, if you need to check the source again later, you will know where to find it.

Taking Notes

Taking accurate notes is important in all good research. Before you actually write anything, be sure that the information in front of you is worth recording. Summarize what is there, briefly, in your own words. Copy as a direct quote anything that seems striking or particularly important. Use direct quotes when you want to refer to an expert's knowledge or opinion. Direct quotes are important because they report the actual words used. Put quotation marks around such passages and check that you have copied them exactly as in the source.

Some people take notes on standard cards. It is best to make one

card for each major item of information such as a fact, idea, or quotation. With separate items on cards like this you can easily arrange and rearrange your notes. This is useful as your thinking about the subject develops, or if the outline of your paper changes. Often as you read you will have new ideas that you will want to follow up later. You might agree or disagree strongly with a statement, or you might recall that one of your other sources had a different view. Keep track of these arguments by recording them on the card. To keep the author's and your own views separate, you could use different coloured inks, or draw

a line across the card so that your comments are written below what vou have noted down from the source you are reading.

Give each note card a heading. This will identify the relevant topic or subtopic in your outline. Also write down the source number from the bibliography card where you can see it quickly. It is best to do this in the same place always, such as the upper right hand corner of the card. Record the page number or numbers where the information is to be found in the source document. Make sure you have the exact page for any direct quotes. You will need this for footnotes in your paper.

Other Sources of Information

As well as the library, you may wish to use other sources to get information useful for your research

Writing for information. Government agencies and business and professional associations can be important sources of information. Such organizations may be able to supply you with recent statistics or other kinds of information that might be otherwise hard to track down. Many of these organizations publish pamphlets that are free or inexpensive.

To find addresses of government agencies, check the telephone directory for a large city near you or for the capital city of your state or country. Most governments also issue lists of official government publications. The lists will tell you what you have to do to get particular publications that you need. Consult the lists at your local public library. See the next section on Selected Reference Books, where the titles of some of these lists are given.

State and local government agencies can provide information on historic events, tourist attractions, economic resources, and many other topics. You may be able to get brochures, pictures, and other material about foreign countries by writing to tourist information centres listed in travel quides.

Most national governments maintain embassies in the capital cities of other countries. They also often have consulates in very large cities. Look in the telephone directory to see if there are any foreign embassies or consulates near you. You can write to or telephone them for information about their countries.

The addresses and phone numbers of thousands of associations are also listed in directories of associations, which may be available in your library. Ask your librarian about other directories that could be helpful. When you write for information, keep in mind that some groups are better equipped than others to handle requests. Make your request specific and reasonable. Include a selfaddressed, stamped envelope for the reply. Most important, don't assume that the reply will arrive by the time you need it. It may not. Be prepared to use information from other sources if necessary.

Conducting an interview can be an effective way to get facts and personal viewpoints that add special interest to your report. Begin with a courteous phone call or letter identifying yourself and requesting an interview. Specify the sort of information you need. Make yourself available at a time that is convenient for the person you are contacting.

Before the interview, read background material about the topic and, if possible, about the person you'll be interviewing. That way, you'll be better able to ask intelligent questions and follow-ups. Prepare a list of questions.

Listen carefully during the interview. Take notes on important points and be careful to write direct quotations exactly as they are said.



A survey is an excellent way of researching people's preferences or opinions. Using a clip-board enables you to take notes easily.

Be sure to ask permission to use a direct quote. Ask for clarification of points you don't understand and the spelling of unfamiliar terms or names. A tape recorder can eliminate the need for taking lengthy notes by hand. But again ask permission beforehand. Some people object to being taped or "freeze" when the tape begins. If you use a tape recorder, check beforehand to make sure that it's working properly and that you have enough tape for the length of the interview.

Before you leave the interview, be sure to write down accurately the subject's name, position or title, and place of business. You'll need this information for your bibliography and footnotes. Don't forget to thank your subject at the end of the interview. Also follow up with a thank-you note.

Conducting a survey is another way to get unique material. You can ask people questions in person or draw up a written questionnaire. In either case, phrase your questions carefully so that people can respond easily and clearly. Surveys that use a "yes or no" or "for or against" format are the easiest to evaluate. You may want to include a "no opinion" category. Or you may prefer a format that allows for a range of opinion. Whatever survey method you choose, take care to record the results accurately.

Using television as a source. Television documentaries, news programmes, and interview shows can give you access to expert opinions and valuable information. If you plan to watch a programme as part of your research, be prepared to take careful notes. Here again, recording

can be a help. (Some TV channels offer free transcripts of certain programmes, but they may not announce the availability of the transcript until the end of the programme.) Be sure to note the name of the programme, the channel on which it appeared, and the date of broadcast for your bibliography and footnotes.

Museums, art galleries, and historical societies may enable you to explore your subject first-hand. For example, a report on the painter Vincent van Gogh could be enhanced by a visit to an art museum that shows some of his works

Many museums and other culture centres have libraries or other research facilities open to the public. Check to see what your community has to offer that can help you gain greater understanding of your topic

Glossary

A selected list of terms and abbreviations commonly encountered in research.

abr. Abridged; abridgment

added entry The heading above the author line on a catalogue card. The card is filed by this entry.

annotation A brief description of the content of a book. anon. Anonymous (author unknown)

appendix A section that follows the text, containing material relative to, but not essential to, the subject.

author number See Cutter number

bibliography A list of books or writings or sources. May be general, selective, on a particular subject, or have a common theme; often annotated.

bk., bks. Book(s)

c. or ca. circa, about. Refers to an approximate date (e.g., c. 1340)

call number The classification (Decimal) number (q.v.) and the Cutter number (q.v.). Used to request a book.

cf. Confer; compare one source with another

ch., chap., chaps. Chapter(s)

class number The number by which a book is identified in a classification system (e.g., the Dewey Decimal Classification System). It indicates the subject matter of the book.

col., cols. Column(s)

continuation A work (e.g., The World Almanac) issued at regular intervals.

copr.; © Copyright The copyright notice usually consists of the symbol © (with or without the word copyright) and the year in which the book was copyrighted. May apply to the entire work or only a part. It generally appears on the verso of the title page.

corporate author An organized body (institution, government agency, or company) acting as author.

cross-reference A reference to another entry. A see reference is to the preferred entry, the one under which the material appears; a see also reference is to related material.

cumulate The contents of several volumes arranged into one volume.

Cutter number A number added to the subject classification. Preceded by one or more initials from the author's name, this number makes it possible to arrange books alphabetically by author within a subject. Sometimes called the author number. See also call number.

documentation Support for a statement, as in a footnote or bibliography.

e.g. exempli gratia, for example

ed., eds. Editor(s); edition(s)

ellipsis Three spaced full stops (or periods) used to indicate an omission. At the beginning of a sentence, may or may not be followed by a capital letter; at the end of a sentence, is preceded by a full stop.

enl. Enlarged (e.g., enl. ed.)

et al. et alii, and others

et seq. et sequens, and following

etc. et cetera, and so forth

f., ff. And the following (e.g., pp. 65 f.; pp. 64 ff.)

fig., figs. Figure(s)

front. Frontispiece

i.e. id est, that is

ibid. ibidem, the same. In a footnote, refers to the book cited

in immediately preceding reference. Ibid. takes the place of the author's name, the title, and as much of the material in the preceding footnote as is identical. The page number may differ.

id. idem, the same. Used in place of the author's name in additional references within a single footnote.

il., illus. Illustrations, illustrator, illustrated

incunabula Books printed before 1501. infra See below; to be mentioned later.

I., II. Line(s)

loc. cit. loco citato, in the place cited. In a footnote, refers to a passage already identified when there are intervening references to other sources.

main entry The catalogue card that has full information about a book (the author card).

MS., MSS. Manuscript(s)

n., nn. Note(s)

N.B. Nota bene, note well; take notice

n.d. No date of publication or copyright given.

n.p. No place of publication given.

no., nos. Number(s)

op. cit. opere citato, in the work cited. In a footnote, refers to a previously identified work when a different part is cited and there are intervening references. Pages are included in the citation.

open entry A continuation (see above), shown on the catalogue card by a hyphen after the date. The volumes the library has are usually listed.

p., pp. Page(s)

paraphrase A restatement conveying the general meaning of the original.

pass. passim, here and there; throughout the work (e.g., pp. 60, 81, et pass.)

periodical Primarily a magazine, published at regular or irregular intervals.

pl., pls. Plate(s)

printing date The year the book is printed (usually appears on the title page). Not always the same as the copyright

pseud. Pseudonym, a name other than an author's real name; a pen name.

pt., pts. Part(s)

pub. Published, publication

q.v. quod vide, which see

recto Right-hand page of a book; the back of a verso page rev. Revised, revision

scope extent of treatment, coverage

series title The collective title for a group of books.

sic So, thus, in this way. Used within brackets in a quotation to show that an error is in the original: "It was to [sic] late '

slug Heading on a note card indicating the topic.

sup., supp., suppl. Supplement

supra See above; previously mentioned

thesis The statement of purpose, the proposition to be explained or proved.

tr., trans. Translator, translation

v., vol., vols. Volume(s)

v. vide, see

verso Left-hand page of a book; the back of a recto page viz. videlicet, namely. Introduces examples or lists.

vs. Versus, against

Selected Reference Books

The following list of general and special reference books will give you some idea of the variety of works available for research. In order to list as many books as possible, information is limited to titles and individual authors or editors. Even if your school library has only a few of these books, many of them, or ones like them, should be available in your local public library.

In the section on special reference works, the number in parentheses after a heading—Theatre(792)—is the Dewey Decimal Classification for that group. Although some libraries may assign different classification numbers to individual titles. the number given here will help you locate the reference books in these general subject fields.

The selection includes books with a broad international coverage, and books related to the United Kingdom, the United States, and Australasia. Most countries have similar reference works. Most general subjects are covered by their own special encyclopedias, indexes to periodicals, Who's Whos, directories, dictionaries and so on. To find the special reference books that you need, check Sheehy and Walford (see the Guides to Reference Books in the first section below). These useful guides come out every few years in up-dated editions.

General reference books

Guides to reference books

Guide to reference books, Eugene P. Sheehy Guide to Reference Material, A.J. Walford

Almanacs and yearbooks

Britannica Book of the Year, 1938-Collier's Year Book, 1939-Information Please Almanac, 1947-The Statesman's Yearbook, 1864-Whitaker's Almanack, 1869-The World Almanac and Book of Facts, 1868-The World Book Year Book, 1922-

National bibliographies

Australian National Bibliography, 1961-Australian Books in Print, 1956-Books In Print, 1948- (US) British National Bibliography, 1950-British Books in Print, 1961-Cumulative Book Index, 1898- (US and other English language) Paperbound Books in Print, 1955-Subject Guide to Books in Print, 1957

Biography

Indexes

Biography Index, 1946-

International

Current Biography, 1940-The International Who's Who, 1935-McGraw-Hill Encyclopedia of World Biography Webster's Biographical Dictionary

By Country Dictionary of American Biography

Who's Who in America, 1899-Who Was Who in America, 1897-1981 Who Was Who in America: Historical Volume, 1607-1896

Australian Dictionary of Biography Who's Who in Australia, 1927Dictionary of National Biography (UK) Who's Who, 1849-Who Was Who. 1897-1970

"Curious facts" books

Famous First Facts, Joseph N. Kane Guinness Book of Records

Encyclopedias, general

Collier's Encyclopedia Compton's Encyclopedia and Fact-Index Merit Students Encyclopedia The New Encyclopaedia Britannica The World Book Encyclopedia

English-language dictionaries

General Dictionaries

Funk & Wagnalls New Standard Dictionary of the English Language Macquarie Dictionary (Australian usage) Oxford English Dictionary Webster's Third New International Dictionary of the English

Language, Unabridged The World Book Dictionary

Abbreviations

Abbreviations Dictionary, Ralph de Sola

Etymology (word origins)

Oxford Dictionary of English Etymology Barnhart Dictionary of Etymology

Rhymes

The Poet's Manual and Rhyming Dictionary, Frances Stillman and Jane S. Whitfield

Slang

A Dictionary of Slang and Unconventional English, Eric Partridge Dictionary of Australian Colloquialisms, G.A. Wilkes

Synonyms and antonyms

Roget's International Thesaurus Webster's New Dictionary of Synonyms

Periodicals and newspapers

Bibliographies

IMS Ayer Directory of Publications, 1880- (newspapers) Press Radio and TV Guide: Australia, New Zealand, and the Pacific Islands, 1934-Ulrich's International Periodicals Directory, 1932-

Willings Press Guide, 1874- (UK)

Readers' Guide to Periodical Literature, 1900-Times Index, 1907-

Research, library use and writing

The Elements of Style, William Strunk, Jr. and E. B. White How to do Library Research, Robert B. Downs and Clara D. Keller

A Manual for Writers of Term Papers, Theses and Dissertations, Kate L. Turabian

The Modern Researcher, Jacques Barzun and Henry F. Graff The Term Paper, Step by Step, Donald J.D. Mulkerne and Gilbert Kahn

Writer's Guide and Index to English, Wilma and David Ebbitt Your Library: a Reference Guide, William Katz

Special reference books

The humanities: The meaning of man's life Indexes

Humanities Index, 1974-

British Humanities Index, 1962-

Architecture (720)

A Dictionary of Architecture, Nikolaus Pevsner

A History of Architecture, Banister Fletcher

Macmillan Encyclopedia of Architects

Art, general (700)

Art Index, 1929-

Encyclopedia of World Art

Gardiner's Art through the Ages

Oxford Companion to Art

Literature (800)

Brewer's Dictionary of Phrase and Fable

The Cambridge History of English Literature

Contemporary Authors, 1962-

Encyclopedia of World Literature in the Twentieth Century

Familiar Quotations, John Bartlett

New Cambridge Bibliography of English Literature

Oxford Companion to English Literature

Oxford Companion to American Literature

Oxford Companion to Australian Literature

Cinema (791.4)

Film Literature Index, 1973-

International Motion Picture Almanac

Motion Picture Guide

Oxford Companion to Film

Music (780)

Music Index, 1949-

The New Grove Dictionary of Music and Musicians

The New Oxford History of Music

Mythology (290)

Bullfinch's Mythology

A Dictionary of World Mythology, Arthur Cottrell

Philosophy (100)

The Concise Encyclopedia of Western Philosophers, James O.

The Dictionary of the History of Ideas

The Encyclopedia of Philosophy

Theatre (792)

Oxford Companion to the Theatre

Shakespeare's Theatre, C. Walter Hodges

The sciences: Nature and the physical world Indexes

Applied Science and Technology Index, 1958-

British Technology Index, 1964-

General (500; 600)

[Oxford] Concise Science Dictionary,

Dictionary of Scientific Biography

The Great Scientists,

McGraw-Hill Encyclopedia of Science and Technology

Science Year 1991 (World Book Annual Science Supplement)

Van Nostrand's Scientific Encyclopedia

Words of Science and the History Behind Them, Isaac Asimov

The World Book Encyclopedia of Science

Biology (574)

Dictionary of Life Sciences, E.A. Martin, ed.

The Encyclopedia of the Biological Sciences, Peter Gray

The Peterson Field Guides

Synopsis and Classification Of Living Organisms, Sybil Parker, ed.

Engineering and technology (620)

The Dictionary of Space Technology, Joseph A. Angelo

Energy: A Guidebook, Janet Ramage

Handbook of Engineering Fundamentals, Mott Souders

History of Technology, C. Singer, and others

Spencer's Computer Dictionary for Everyone, Donald D. Spencer

Medicine (610)

Dorland's Illustrated Medical Dictionary

A History of Medicine, Arturo Castiglioni

The Oxford Companion to Medicine

Oceanography (551.4)

McGraw-Hill Encyclopedia of Ocean and Atmosphere Sciences Zoology (590)

The Audubon Society Encyclopedia of Animal Life

A Dictionary of Zoology, A. W. Leftwich

The Encyclopedia of Mammals

The World Atlas of Birds

The social sciences: Man and society Index

The Social Sciences Index, 1974

General (300)

International Encyclopedia of the Social Sciences

Anthropology (301)

Atlas of Man, John Gaisford, ed.

Encyclopedia of Anthropology, David E. Hunter and Phillip

Whitten, eds

Man, His First Two Million Years, Ashley Montagu

Current affairs (909.82)

Annual Register, 1761-

Facts on File, 1940-

Keesing's Contemporary Archives, 1931-

Public Affairs Information Service, 1915-Economics (330)

McGraw-Hill Dictionary of Modern Economics

Geography and travel (900-919)

Fodor's Modern Guides (travel series)

The International Geographic Encyclopedia and Atlas Times Atlas of the World

Government and politics (320)

Britain 1991, an Official Handbook (annual)

Charter of the United Nations: Commentary and Documents,

Leland M. Goodrich, and others

Constitutions of Nations, A. J. Peeslee

Europa World Year Book, 1926-

Yearbook of the Commonwealth of Australia, 1908-

United States Government Manual

Government publications (011.53)

Australian Government Publications, 1961-

HMSO Monthly Catalogue, 1923- (Her Majesty's Stationery Office in the UK)

Monthly Catalog of United States Government Publications

UNDOC: Current Index, 1950- (United Nations Documents) History (900-909; 930-999)

Cambridge Ancient History

A Dictionary of Dates, Helen Rex Keller

An Encyclopedia of World History, William L. Langer

New Cambridge Modern History

Oxford History of England

Times Atlas of World History

The Timetables of History, Bernard Grun

Law (340)

Black's Law Dictionary

Index to Legal Periodicals, 1908-

Statistics (310)

Annual Abstract of Statistics, 1840- (UK)

Historical Statistics of the United States, Colonial Times to 1970

Statistical Abstract of the United States

Statistical Yearbook (United Nations)

The Statesman's Yearbook

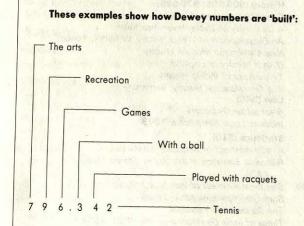
Times of India Directory and Year Book, 1914-

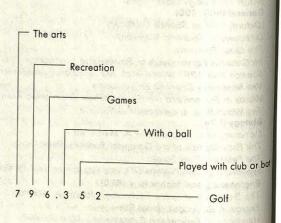
Unesco Statistical Yearbook

Dewey Decimal Classification

000	General works	330	Economics	670	Manufactures
010	Bibliography	340	Law	680	Assembled products
020	Library and information sciences	350	Public administration	690	Buildings
030	General encyclopedias	360	Social problems and services		Carlotte Tempelican - sera con
040	AND STATE OF STREET STATES	370	Education	700	The arts
050	General periodicals	380	Commerce	710	Civic and landscape art
060	General organizations	390	Customs, etiquette, folklore	720	Architecture
070	Newspapers and journalism			730	Sculpture, plastic arts
080	Collected works	400	Language	740	Drawing, decorative and mino
090	Manuscripts and rare books	410	Linguistics		arts
		420	English and Anglo-Saxon	750	Painting
100	Philosophy and related	430	Germanic languages	760	Graphic arts
	disciplines	440	French, Provençal, Catalan	770	Photography
110	Metaphysics	450	Italian, Romanian	780	Music
120	Epistemology, causation,	460	Spanish, Portuguese	790	Recreational and performing
	humankind	470	Latin and other Italic		t de angeresia tino A
130	Paranormal phenomena	480	Classical and modern	800	Literature
140	Philosophical systems		Greek	810	American literature
150	Psychology	490	Other languages	820	English and Anglo-Saxon
160	Logic			830	Germanic literatures
170	Ethics	500	Pure sciences	840	French, Provençal, Catalan
180	Ancient, medieval, Oriental	510	Mathematics	850	Italian, Romanian
190	Modern Western philosophy	520	Astronomy	860	Spanish, Portuguese
ailbe		530	Physics	870	Latin and other Italic
200	Religion	540	Chemistry	880	Classical and modern Greek
210	Natural religion	550	Sciences of earth and other worlds	890	Other literatures
220	Bible	560	Paleontology		THE PARTY OF
230	Christian theology	570	Life sciences	900	History and geography
240	Christian moral and devotional	580	Botanical sciences	910	Geography and travel
250	Local church and religious orders	590	Zoological sciences	920	Biography and genealogy
260	Social and ecclesiastical theology	di Gira		930	Ancient history
270	History and geography of church	600	Technology	940	Europe
280	Christian churches and sects	610	Medical sciences	950	Asia
290	Other religions	620	Engineering	960	Africa
CALCON .		630	Agriculture	970	North America
300	Social sciences	640	Home economics	980	South America
310	Statistics Authority When you me	650	Management	990	Rest of world
320	Political science	660	Chemical technology	Mentali (e.g.)	ACT TO SEE BY PRINCIPLE TO
			Security and a second security		9 -5.91 - 112

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How to use the index

The index is designed to help you find information in World Book. It tells you what articles have information on the subject you are looking up. To make it even easier for you to find what you seek, the index refers you to the specific volume and page where the information appears. If it sends you to a fairly long article, it tells you which section or sections of that article to look for.

The references to *World Book* appear under *index* headings that are printed in heavy type. These headings are arranged in alphabetical order. To find where *World Book* contains information on your subject, simply look for an index heading that seems to match the subject you are seeking. For example, if you are looking for information on physics, look for the index heading

Physics

and you have found the references you want.

If the index heading you find is also the title of an article in *World Book*, the volume and page number are shown immediately after the heading. In the case of

Mythology M: 751

the index heading and article title are the same, and the article begins on page 751 of the M volume.

Page numbers in the two C volumes are indicated with C and Ci, and those in the two S volumes are indicated with S and So. Page numbers for the volumes that contain more than one letter indicate the letter you seek, rather than the first letter of the volume. For example, the reference to Yoga sends you to Y: 453, page 453 of the W-X-Y-Z volume.

If the heading you find is not the title of an article, you will find the titles of *World Book* articles listed as *index* entries in light type under the heading:

Libretto

Classical music (Operas) Ci: 57 Musical comedy (The book) M:738 Opera 0:453

Some headings have only a few entries under them. Others, such as the Africa heading, have many.

If the article referred to is divided into sections, you will find the appropriate subheadings in parentheses between the article title and the page number, pinpointing the place where the information may be found:

Crime Ci:435

Aborigines (Offences) A:27 City (Social problems) Ci:36 Famine (Effects of famine) F:25 Police (Investigating crime) P:640 Sometimes you will find two page numbers after a title and subheading. They indicate that the section referred to covers more than one page and begins on the first page listed, but the information you seek appears on the second:

Chile

Copper (Sources of copper) Ci:341-342

Identifiers, words or phrases in square brackets, indicate which of several identical headings is the one you seek:

Colon [people]

Colon [anatomy]

Colón [Panama]

Colon [punctuation]

or which of several similar headings is the one you are looking for:

Charles II [king of England]

Charles II (king of France)

Charles III [king of France]

Charles III [king of Spain]

Charles IV [Holy Roman emperor]

Charles IV [king of Bohemia]

Cross-references guide you in using the index. A see reference means that the information you seek appears under another heading in the index, rather than the one you have chosen:

Feisal

See Faisal [king of Saudi Arabia]

A see also reference indicates that another heading in the index has entries you may want to look up:

Communist Party

See also Communism

Many cross-references send you to the list of Related articles which appears at the end of a major article.

Bird

See also list of Related articles

You can thus find the long lists of articles in *World Book*, such as the list of birds at the end of the Bird article, but these lists do not take up space in the index.

References to illustrations appear along with other references in this index, not separately. The wording shows whether you will find both pictures and text information or only pictures on the pages listed. If the entry says with picture, with portrait, with diagram, with map, or a similar phrase, it indicates that text material appears on the page named and that a related illustration appears on that same page or the page facing it. In the case of

Hotbed [gardening] H:318 with picture

the text information appears on H:318 and is accompanied by a diagram showing a hotbed.

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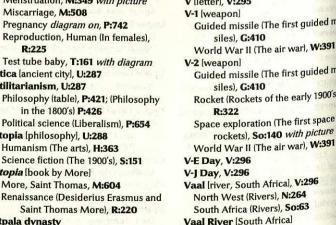
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courtesy Oscar G. Brockett. 290. 1) Pantaloon Serenading His Mistress (about 1580) an oil painting on wood panel by an unknown artist showing, left to right, the heroine, Harlequin. Pantaloon and Zanni. Drottningholms Teatermuseum, Stockholm. 291, 1) Serlio's design for comedy from The First Book of Architecture, courtesy Newberry Library, Chicago. 292. 1) Detail from a painting (about 1597) by an unknown artist of a wedding masque during a banquet at the house of Sir Henry Unton, National Portrait Gallery. London. 293. 1) Illustration by Juan Comba from El Corral de la Pacheca by Ricardo Sepulveda, courtesy University of Chicago Library. 294. 1) David Garrick and Mrs Pritchard in Macbeth, detail from a painting (about 1770) by Johann Zoffany; Garrick Club, London. 295. 1) School of Drama Library, Yale University. 296. 1) Edward B. Harper, University of Washington, Seattle. 2) Scene from The White Serpent; Prof. Josephine Huang Hung, National Taiwan University, Taipei, Taiwan. 297. 1) Woodcut (1800-1803) by Utagawa Toyokuni, The British Museum, London. 2) Woodcut (1800-1803) by Utagawa Toyokuni, The British Museum, London. 3) Woodcut (1800-1803) by Utagawa Toyokuni, The British Museum, London. 299. 1) Courtesy of The Theatre Collection, New York Public Library at Lincoln Center, Astor, Lenox and Tilden Foundation. 2) Deutsches Theatermuseum. 300. 1) Bert Lahr, left, and E. G. Marshall, right, in a scene from Waiting for Godot By Samuel Beckett; Elliot Erwitt, Magnum. 301. 1) Photostage. 303. 1) Portrait of Isabella Brant (about 1625); The British Museum, London. 2) Color Intervals at Provincetown (1943); Addison Gallery of American Art, Phillips Academy, Andover, Mass. 304. 1) Landscape with Satyr (early 1500s) attributed to Titian; The Frick Collection, New York City. 4) Preliminary study for the portrait Comtesse d'Haussonville (1845); The Frick Collection, New York City. 305. 1) The Locomotive (1923); Philadelphia Museum of Art, the Harrison Fund. 306. 1) Peter Arnold. 307. 1) Hard-paste porcelain by Johann Kändler; Art Institute of Chicago. 309. 1) Bord Fáilte Éireann. 310. 1) Hutchison Library. 318. 2) Nancy Palmer Photo Agency Inc. 320. 1) Sumerian clay tablet; University Museums, University of Pennsylvania. 325. 1) Pamela McReynolds. 3) Cameramann International. 326. 1) David R. Frazier. 328. 1) Photographic Library of Australia. 2) Sygma. 3) Detail of portrait by Madame Vigée-Lebrun, private collection. Bulloz from Art Reference Bureau. 329. 1) Fionnbar Callanan. 331. 1) The 79 Slide File. 333. 1) Fionnbar Callanan. 334. 1) Wide World. 335. 1) Louise and Walter Arensberg Collection. 336. 1) Dr Paul A. Johnsgard. 337. 1) Shelduck illustration by John F. Eggert; other illustrations by Athos Menaboni. 338. 2) Walter Chandoha. 339. 1) Bell Aerospace Textron. 340. 1) Mary Evans Picture Library. 342. 1) Watercolour (1930); the Baltimore Museum of Art, Saidie A. May Collection. 344. 1) Chicago Historical Society. 2) Chicago Historical Society. 345.1) Britain on View. 346 1) Scottish Tourist Board. 347. 1)

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Wolinsky, Stock, Boston. 2) Chester Peterson, Jr, Farm Journal. 314. 1) Marc & Evelyne Bernheim, Woodfin camp. 315. 1) Alain Nogues, Sygma. 316. 1) AP/Wide World. 318. 1) Mickey Pfleger 1982. 322. 1) Ken Kaminsky. 2) Focus on Sports. 323. 1) Carl Skalak, Jr, OPTICOM. 2) Michael Yada, National Football League Properties. 3) Focus on Sports. 4) Pete Miller, National Football League Properties. 324. 1) Focus on Sports. 2) Focus on Sports. 326. 1) Allsport/David Cannon. 328. 1) Action Plus/Mike Hewitt. 331. 1) Action Plus/Chris Barry. 2) Allsport/Simon Brutty. 3) Colorsport. 332. 1) Colorsport. 333. 1) Allsport/Billy Stickland. 334. 1) Allsport/Billy Stickland. 2) Allsport/Simon Brutty. 335. 1) Norman Barrett. 336. 1) University of Illinois Hospital. 339. 1) Hulton Deutsch Collection. 2) Rex Features. 3) Ford Motor Company. 340. 1) Ford Motor Co. 341. 1) Kobal Collection. 344. 1) Jacques Jangoux. 2) Jen & Des Bartlett, Bruce Coleman. 3) Ray Atkeson, DPI. 345. 1) Smith/Polunin Collection. 2) Jerry Frank, DPI. 3) Robert Frerck, Dimensions. 346. 1) Jacques Jangoux. 2) Eric Crichton/Bruce Coleman. 3) Hutchison Library. 355. 1) Bill Staley, West Stock. 356. 1) Forestry Commission. 358. 1) Desmond Dugan/Frank Lane Agency. 2) John Running, Stock, Boston. 359. 1) Terry Wild. 2) Liane Enkelis, Stock Boston. 361. 1) Wardene Weisser, Berg & Assocs. 2) Stacy Pick, Stock, Boston. 363. 1) Serena Wadham/Camera Press. 364. 1) W. 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1) Art Resource. 263. 1) Robert Harding Picture Library. 2) Metropolitan Museum of Art, New York City. 264. 1) The Pierpont Morgan Library, New York City. 267. 1) U.S. Army. 2) Judith Selsor, Wheeler Pictures. 3) Steve Smith, Wheeler Pictures. 4) Frank Siteman from Marilyn Gartman. 280. 1)

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Daemmrich, The Image Works. 189. 1) Chicago Aerial Survey, Inc. 190. 1) NASA. 2) U.S. Geological Survey. 3) Chicago Aerial Sur vey, Inc. 191. 1) From Ptolemy's Geography, published in Ulm by Leinhart Holle, 1482, Library of Congress. 2) Harvard Semitic Museum. 193. 1) E. R. Degginger. 2) Jerome Wexler, APF. 3) Werner Schulz. 4) Walter Chandoha. 5) Charles E. Mohr, NAS. 6) Jerome Wexler, APF. 7) E. R. Degginger, 8) C. G. Maxwell, NAS. 194. 1) Geoslides. 2) Loren McIntyre. 195. 1) C. Haagner, Bruce Coleman Inc. 2) Shostal. 197. 3) Georgia Marble Company. 198. 1) National Marbles Tournament. 2) Jerry Brule, Marble Collectors Unlimited. 3) AP/Wide World. 201. 1) Photographic Library of Australia. 202. 1) Brown Bros. 203. 1) Jeff Foott, Bruce Coleman Ltd. 205. 1) Cameramann International, Ltd. 208. 1) Karl Kummels, Shostal. 2) Watercolour (1922); Phillips Collection, Washington, D.C. 3) Peter A. Juley & Son. 209. 1) British Embassy. 210. 1) Joe Viesti. 2) Dan McCoy, Rainbow. 212. 1) Giuseppe Mazza. 2) Robert Harding Picture Library. 215. 2) Rod Williams, Bruce Coleman Inc. 217. 1) Victor Englebert. 218. 1) Ellis Herwig from Marilyn Gartman. 219. 1) John Coletti, Stock, Boston. 2) J. M. Bertrand, Shostal. 221. 1) Hale Observatories. 2) NASA. 222. 1) NASA. 2) Lowell Observatory. 3) NASA. 4) Lowell Observatory. 224. 1) The New Zealand Herald. 225. 1) Frances de Richemond, The Image Works. 227. 1) Photographic Library of Australia. 228. 1) Ray Williams. 2) G. R. Roberts. 3) Photographic Library of Australia. 4) Tom McHugh, Photo Researchers. 5) G. R. Roberts. 229. 1) Douglass Baglin. 2) Fionnbar Callanan. 230. 1) Joe Van Wormer, Bruce Coleman Inc. 231. 1) V. Cehman/Colorsport. 234. 1) Brown Bros. 236. 1) United Press Ltd. 238. 1) Mary Rose Trust. 240. 1) Manley Features from Shostal. 241. 1) British Combine. 2) Granger Collection. 3) Museum of the American Indian, New York City. 247. 1) Bill Gallery, Stock, Boston, 251, 1) Painting by Charles R. Knight, American Museum of Natural History. 252. 1) Universal Match Corporation. 253. 1) Popular Culture Library, Bowling Green University. 255. 1) Alvis Upitis, The Image Bank. 2) Steve Dunwell, The Image Bank. 3) Alvis Upitis, The Image Bank. 262. 1) Collection of S. Max Becker, Jr., Glencoe, III. 2) Gisele Freund, Photo Researchers. 3) Rump Collection. 265. 1) Chris Bonington, Bruce Cole. 2) Paul Popper. 266. 1) Balkin, Pix. 2) Rex Features. 3) Royal Mint. 268. 1) Wolfgang Kaehler. 271. 1) Australian News. 278. 1) Bradley Smith. 2) Lee Boltin. 279. 1) Ampliaciones y Reproducciones MAS. 2) Lee Boltin. 281. 1) Wide World. 283. 1) Fionnbar Callanan. 284. 1) Heather Angel. 287. 1) Brown Bros. 2) Navistar International. 288. 1) Wide World. 289. 1) Sh. Steiner, Sygma. 2) Sydney Morning Herald. 3) Newberry Library, Chicago. 291. 1) John Fairfax. 3) Photograph by Matthew B. Brady, The National Archives, Washington, D.C. 293. 2) Artstreet. 4) Artstreet. 297. 1) Anthony Bannister, NHPA. 299. 1) IBP, Inc. 300. 1) Oscar Mayer Foods

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Penn. 2) Hulton Deutsch Collection. 331. 1) Richard Desgrand. 2) Noel Sweeney. 3) Photographic Library of Australia. 333. 2) Australian Picture Library. 335. 2) State Library of Victoria. 337. 1) Australian Picture Library. 2) Australian Picture Library. 338. 1) Australian Picture Library. 340. 1) Pittsfield, Mass. 344. 1) A. Aubrey Bodine. 2) Brown Bros. 345. 1) AdW/Frobus. 346. 1) Historical Pictures Service, Chicago. 354. 1) David R. Frazier. 355. 1) 1966 Harper & Row, Publishers. 358. 1) Australian High Commission, London. 359. 1) Bettmann Archive. 360. 1) British Petroleum. 2) British Petroleum. 362. 1) Russ Kinne, Photo Researchers. 363. 1) NASA. 2) Cossé Brissac collection (Giraudon/Art Resource), 365, 1) Six Flags Great America. 367. 1) Woodmansterne. 369. 1) Dick Skrondahl. 372. 1) Grant Heilman. 375. 1) Garrett Electronics. 380. 1) Meteor Crater Enterprises, 381, 1) P. Hollembeak, American Museum of Natural History. 391. 1) George Philip & Son Ltd. 393. 1) Jaques Thomas, explorer. 396. 1) Bettmann Archive. 397. 1) E. R. Degginger, Bruce Coleman Inc. 398. 1) Flag Research Center. 399. 1) Robert Frerck. 2) Tony Stone Worldwide/Murray & 3) Tony Associates. Worldwide/Geraldine Prentice. 4) Robert Frerck. 400. 1) Harvey Lloyd, The Stock Market. 2) Steven D. 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Giner, The Stock Market. 420. 1) Robert Frerck. 423. 1) UPI/Bettmann. 424. 1) James Davis Travel Photography. 425. 1) Robert Frerck. 427. 3) Spectrum Colour Library. 4) Tony Stone Photolibrary, London. 428. 1) Haroldo de Farla Castro, FPG. 429. 1) Robert Frerck. 430. 1) Robert Frerck. 438. 1) Eastman Kodak Company. 439. 1) David R. Frazier Photolibrary. 445. 1) Giraudon. 450. 1) Pierpont Morgan Library, New York City. 451. 1) Michael Holford. 453. 1) Dallas and John Heaton, Click/Chicago. 2) Richard Lobell. 455. 1) Hutchison Library. 457. 1) David Rubinger, Black Star. 459. 2) J. Andrada, Bruce Coleman Ltd. 462. 1) Erika Stone from Peter Arnold, 463, 1) Ted Spiegel, Black Star. 465. 1) Melissa Grimes-Guy, Photo Researchers. 2) Tom Tracy. 466. 1) Source: U.S. Agricultural Research Service. 468. 1) Terry Wild. 469. 1) Tom Tracy. 470. 3) E. R. Degginger. 472. 1) Tate Gallery. 475. 2) Culver. 476. 1) Granger Collection. 478. 1) Shostal. 2) Dick Dietrich, FPG. 3) R. & S. Michaud, Woodfin Camp, Inc. 480. 1) Tom Hanley. 2) United Press Int. 482. 1) Michael T. J. Kulik. 487. 1) Breck P. Kent. 3) Breck P. Kent. 488. 1) E. R. Degginger. 489. 1) Spectrum Colour Library. 490. 1) Ming vase (1573-1620); the Art Institute of Chicago, gift of Russell Tyson. 491. 1) Nicholas Devore II Bruce Coleman Inc. 492. 1) ZEFA. 494. 1) Paolo Koch, Photo Researchers. 495. 2) Collier/Condit, Stock, Boston. 496. 1) Tom Brakefield, Bruce Coleman Inc. 2) Ray F. Hillstrom. 498. 2) Rollin Geppert, West Stock. 500.1) Robert Harding Picture Library. 501. 1) Hutchison Library. 502. 1) The Walters Art Gallery, Baltimore. 2) Granger Collection. 503. 1) Royal Mint. 505. 1) George E. Jones II Photo Researchers. 2) Statue by H. H. Kitson; Michael Philip Manheim, The Stock Solution. 507. 1) Bequest of Kay Sage Tanguy. 510. 1) Neveu, Gamma/Liaison. 511. 1) Richard and Mary Magruder. 512. 2) Delta Queen Steamboat Co. 513. 1) Robert H. Glaze, Artstreet. 514. 2) R. 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Exelby/Bruce Coleman. 575. 1) Eric Carle, Shostal. 576. 1) Schmied, ZEFA. 577. 1) Associated Press/Topham. 578. 1) Robert Harding Picture Library Ltd. 2) Granger Collection. 579. 1) Wales Tourist Board. 580. 1) George Hunter, 581, 1) Mansell, 582, 1) Hutchison Library. 583. 1) NASA. 584. 1) NASA. 2) NASA, 585. 1) NASA. 2) NASA. 586. 1) NASA. 2) NASA. 3) NASA. 4) NASA. 5) NASA, 587, 1) NASA, 2) California Institute of Technology. 3) California Institute of Technology. 594. 1) Illustration by Johann Hevelius from Selenographia, Gdansk, 1647, University of Chicago Library. 595. 1) NASA. 596. 1) NASA. 2) NASA. 598. 1) Christie's Colour Library. 599. 1) Wide World. 2) BBC Copyright. 600. 1) By kind permission of His Grace The Duke of Westminster DL (Photographic Records Ltd.). 2) Jim Brandenburg, Woodfin Camp, Inc. 3) Jim Brandenburg, Woodfin Camp, Inc. 601. 1) Robert Harding Picture Library. 602. 1) Spectrum Colour Library. 603. 1) Czechoslovak Travel Bureau. 604. 1) Distillers Company. 2) Frick Collection, New York. 605. 1) Brown Bros. 606. 1) Ebony Magazine. 2) M. 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